JANUARY 1962 • 35¢

AMERICAN Cinematographer

Magazine Of Motion Picture Photography And Production Techniques

IN THIS ISSUE

- CINERAMA GOES DRAMATIC
- THE PHOTOGRAPHY OF "EL CID"
- JAPAN'S FIRST EPIC PRODUCTION IN 70MM

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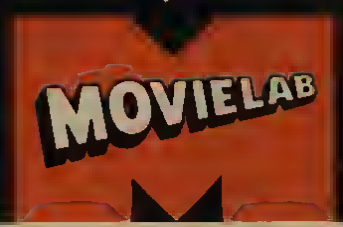

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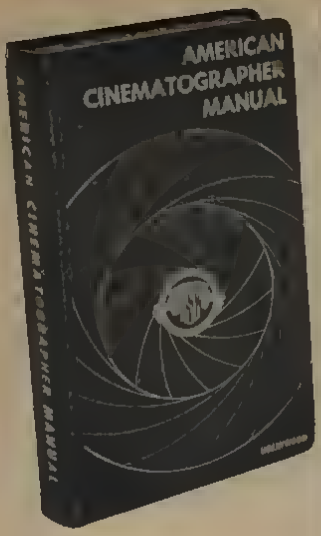

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January, 1962 **Vol. 43, No. 1**

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ON THE COVER

SHOOTING A river-crossing scene on location in Colorado for the MGM-Cinerama production, "How The West Was Won." The three-lensed Cinerama camera is mounted on a Chapman boom. Nearby, gaffers direct booster light from two Brutes on players seated in covered wagon. Directing the photography is William Daniels, ASC.

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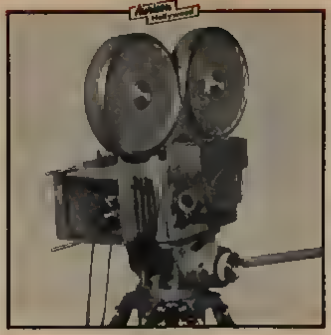

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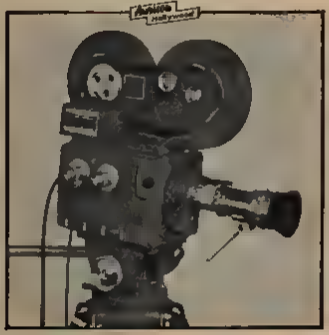

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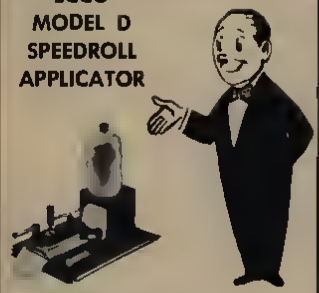

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INDUSTRY NEWS

News briefs of industry activities, products and progress

Wide-screen Adopter

The Bell & Howell Company has designed a wide-screen lens attachment for its new Filmosound 16mm projectors that enables latter to screen 16mm reduction prints of CinemaScope productions. The anamorphic lens and adapter, which sells for around $170, was originally developed for use by the armed forces. It utilizes cylindrical lens elements and has a separate focusing ring. New attachment will fit the 1½", 2" and 3" lenses of all curent Filmosound projectors

•

CECO's Silver Anniversory

Camera Equipment Company, Inc., known throughout the motion picture industry as "CECO," is currently celebrating its first quarter century in business—its Silver Anniversary. Twenty-five years ago CECO was an idea born in the mind of New York cinematographer Frank Zucker, whose motion picture experience dates back to the infancy of the industry—to Brooklyn and Ft. Lee.

Although there was a change in ownership of the company recently, Frank Zucker continues active in its management along with Gene Levy. When Frank launched the business a quarter century ago, Gene was a jack-of-all-trades assistant to Zucker—serving as salesman, shipping clerk, vice-president in charge of maintenance, and office boy. Through the years, Frank and Gene have been inseparable and few men can match them for their monumental knowledge of the film business, and the countless tools, accessories and equipment necessary to that business.

Besides the company's headquarters at 315 West 43rd Street in New York City, there are branch offices in Hileah, Florida and in Hollywood, California.

•

Pubfishers Now Producers

Copley Newspapers has recently set up a film production division for making films for education, promotion, and dissemination of technical information. Copley Productions, as the new division is known, is staffed by G. Howard Matson, production supervisor; John Schaaf, director-cameraman; Frank Willey, film editor; Ray Speery, writer; Paul Holz, production assistant; and Sally Hill, secretary, model, and script girl.

"A New Way of Life," a motion picture on Borrego Springs, in Southern California, produced by the Copley film unit, was recently honored with an award at the Coronado International Film Festival.

•

Pre-production Sign-up

Eight weeks before shooting was scheduled to start on the Axelrod-Frankenheimer production, "The Manchurian Candidate," company signed Director of Photography Lionel Lindon, ASC, thus benefitting from his advisory services in the pre-production planning of sets, selection of locations, and all the things that are pertinent to the successful and economical photography of a picture.

Lindon photographed "Around The World In 80 Days," for which he received an Academy Award.

•

Ryder Adds Sound Studio

Expanding activities in the animated cartoon field has resulted in Ryder Sound Services, Hollywood, adding a third voice recording studio at its Vine Street headquarters. Company services majority of cartoon producers in Hollywood for dialog soundtrack recording.

•

Oxberry In Hollywood

Animation Equipment Company, of New Rochelle, N.Y., has opened a sales and service office for Oxberry film equipment at 7445 Sunset Blvd., Hollywood. Company manufactures animation and film strip stands, optical printers, aerial image units, process cameras, and other film production equipment. Robert Troy, with Oxberry since 1952, heads the new office.

Continued on Page 10

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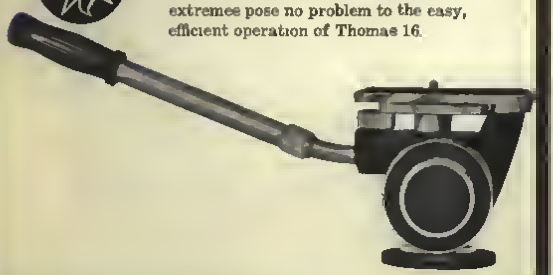

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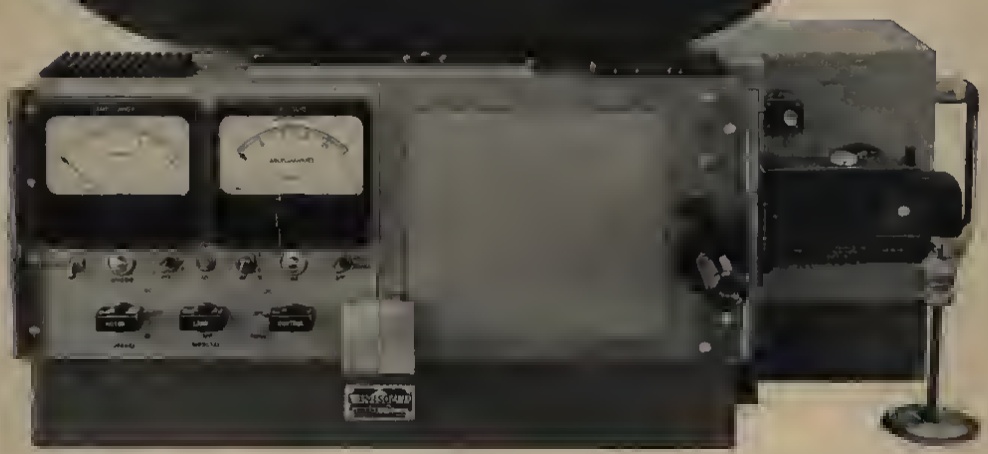

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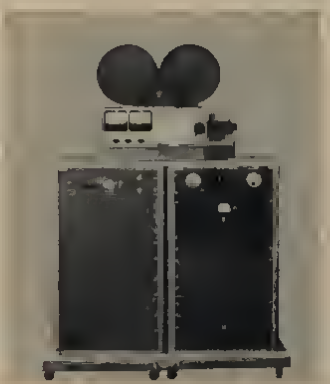
Throughout the world, wherever motion pictures are made *efficiently* you find the Reevesound DL Optical Recorder producing quality sound track negatives and direct positives. This workhorse equipment is the first choice of professionals for 16mm and 35mm optical tracks. Operation is straight forward, maintenance approaches zero and reliability is high. Now available are models for 35mm negative and direct positive, 16mm negative and direct positive and 16mm mag/optical. If motion pictures are your business, it's good business to look into the famous Reevesound DL Recorders.



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INDUSTRY NEWS

Continued From Page 6

Dan Clark Passes

Daniel B. Clark, ASC, veteran director of photography who at one time headed the camera department of 20th Century Fox studios, died December 15 at his home in Los Angeles. Before his retirement in the early 40's, Clark had photographed over 150 major film productions and had received three awards from The Academy of Motion Picture Arts and Sciences for technical and scientific achievements.

Possessed with a passion for photo-technical consistency, and a practical understanding and appreciation for the value of standardization of such factors as light and lens from the cameraman's viewpoint, Clark as Executive Supervisor of Photography at 20th Century-Fox worked out a method of correctly calibrating lenses according to their light transmission abilities. For this he received an Academy Award and world wide recognition for his system.

•

Technical Achievement Reviewed

Seventeen technical achievements of the past year within the motion picture industry have been submitted for 34th Annual Academy Awards consideration. The Academy Board of Governors will determine which of the seventeen will be recommended for Awards recognition.

Pursuant to the Academy's policy the list of seventeen achievements have been publicly announced at this time to permit those with claims of prior art or with devices similar to those under consideration to call them to the Committee's attention. They are:

An Automatic Shutter For Motion Picture Printing Machines, Electronic Systems, Inc.; Multiple Head Reduction Printer, Movielab Film Laboratories, Inc.; Perfectone EP6A Transistorized Recorder, Perfectone and Ryder; Nagra Recorder, Stefan Kudelski; Minitape Recorder, Stancil-Hoffman Corp.; Sun Gun, Sylvania Electric Products, Inc.: Automatic A and B Printing, Technicolor Corp.

Selective Printing, Technicolor Corp.; Integrated Transfer Process, Technicolor Corp.; Pre-Determined Distance Counter, Technicolor Corp.; Rotary Rain Machine, Paramount Pictures Corp.; Interlocking Roller Base and Platform System, Paramount Pictures Corp.; Noise Suppression System, Paramount Pictures Corp., Sound Reproducing System, Century-Projector Corp., CinemaScope Decompressor, 20th Century-Fox; Liquid Heat Reducing Filter, Motion Picture Research Council and D and F Products, Inc., and Closed Circuit Review System, 20th Century-Fox.

•

Trade Notes:

National Cine Equipment Company, New York, N.Y., has acquired the John M. Wall Company, manufacturers of the Wall motion picture camera. National, which manufactures professional 16mm and 35mm motion picture equipment, will carry on production of the Wall line of 35mm sound cameras, 16mm TV recording cameras and accessories . . . *Precision Laboratories*, a division of Precision Cine Equipment Corp., has moved to larger quarters at 928-930 East 51st St., Brooklyn, N.Y. . . . *Capital Film Services*, Lansing, Michigan, has acquired the facilities of the Ansco film processing plant at 247 E. Ontario, Chicago, Ill. . . . *Bell & Howell Company*, Chicago, has been awarded a $671,700 contract for research, development and production of 500 specially designed magnetic-optical sound projectors by the U.S. Air Force . . . *ColorTran Industries* is new name of Natural Lighting Corporation, Burbank, Calif., manufacturers of ColorTran lighting equipment. Milton Forman has been named Executive Director of the new company . . . *Florman & Babb, Inc.*, New York, has appointed Wallace C. Robbins to head company's Industrial Sales division. Robbins was formerly with Camera Equipment Company and De Luxe Laboratories . . . *Photo Animation Inc.*, Mt. Vernon, N.Y., will conduct its annual Portman Animation Seminar and Workshop at Grossinger's Country Club, Sullivan County, N.Y., April 9, 10, and 11th, with attendance limited to one hundred . . . *The Gevaert Company of America, Inc.*, has appointed Jack Goetz Motion Picture Sales Representative for the west coast. Goetz was formerly with Consolidated Film Industries, Hollywood, as a consultant to studio lab heads . . . *Ted Hirsch*, Vice-president In Charge of Operations at Consolidated Film Industries, Hollywood, passed away at his home December 4. He had been with Consolidated since 1929. He was an Associate Member of the ASC. ▲

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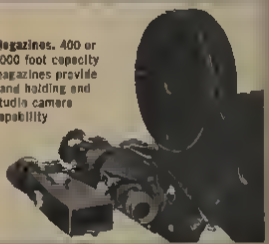
Viewfinders Parallax free brilliant reflex viewing at more than full aperture field Critical focus magnifier contrast viewing filters built in Studio finder fits R-35



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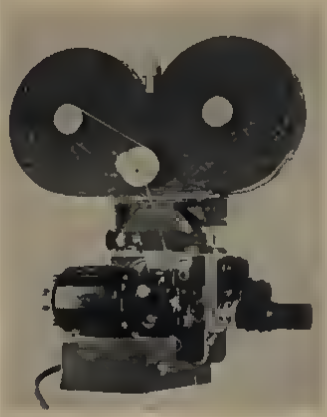


Bolex Camera Accessories

The line of Bolex camera accessories and 400 ft. magazines, previously manufactured and distributed by Toledo Cine Engineering, has been acquired by SOS Photo-Cine-Optics, Inc., New York. The TCE 400-ft. magazine employs a saddle block permanently mounted on the Bolex H-16 camera. Complete professional conversion for the Bolex includes also a 115-V sync motor for 24 fps sound speed; footage counter; gear box with safety disconnect feature; on-off reverse switch, and 12-ft. line cord. Descriptive literature on full TCE line may be had by writing SOS direct.

16mm-8mm Film Processor

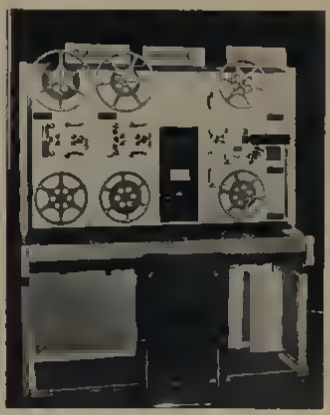
Uhler Cine Machine Co., 15762 Wyoming Ave., Detroit 38, Michigan, is source of low-cost stainless steel developing reels and tanks for processing 8mm and 16mm films. An exclusive feature is plastic separator strip which is threaded along with the film on the reel and allows free flow of processing solutions between layers of film.

Unitized Synchronizers

Precision Laboratories, 928 East 51st St., Brooklyn 3, N.Y., announces incorporation of new design in its line of film synchronizers whereby one may purchase a single synchronizer then add additional units to it later as requirements demand. A simple coupling method permits unitizing the various components. Precision synchronizers and related accessories and equipment are available for both 35mm and 16mm films.

Weston Exposure Meter

The Weston Master IV, newest of Weston photoelectric exposure meters, is claimed 100 per cent more sensitive than earlier models and features an on-off pointer lock. Other improvements are improved acceptance angle, new simplified exposure dial; rugged, "spring-suspended" movement; and converter for incident light readings. ASA exposure index numbers range from .1 to 16,000; shutter speeds from 1/1000 second to 100 seconds.



Professional Recorder

Vicom, Inc. 70 Aberthaw Road, Rochester 10, N.Y., recently introduced its model 202-3 M production-type magnetic film recorder for dialog recording and mixing. Unit is entirely self-contained with positive interlock. The ready-to-plug in unit consists of recording panel, playback panel, and continuous projector with optical playback. All units feature maker's exclusive Floating Filter Transport designed to eliminate film stress and reduce wow and flutter.

Equipment can be used for double-

Continued on Page 14

SELECTION!

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Arriflex 16 offers the *widest selection* of the finest lenses. The selection keeps growing —because the *world's most successful portable professional motion picture camera* inspires the greatest efforts of the world's foremost optical firms. Every lens in the Arriflex 16 syatem adds to this remarkable camera's rare versatility... from the 5.7mm extreme-wide-angle to the longest telephotos, the zooms, and the macros.

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WHAT'S NEW

Continued From Page 12

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New Arri Motor Drive

A new motor drive for the Arriflex-35 is announced by the Arriflex Corp. of America, 257 Park Ave. South, New York 10, N Y. The new unit fits all models of the Arri-35 and consists of a positive, all-geared drive base and a special governor controlled 24-volt DC motor Latter is end-mounted and is positioned alongside the camera on the geared base as pictured above List price is $665.00.

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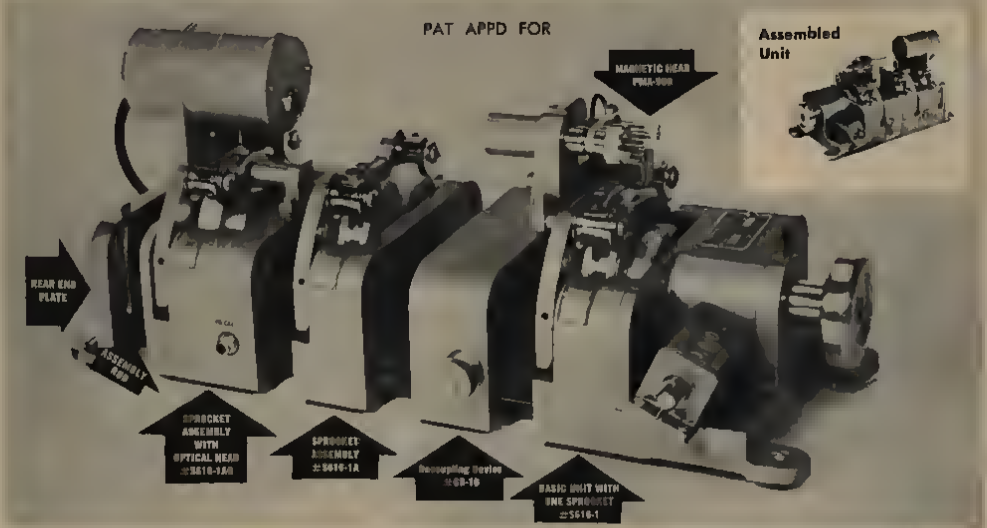

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BEHIND THE CAMERAS

WHAT THE INDUSTRY'S CAMERAMEN WERE SHOOTING LAST MONTH

BY MASON HUTCHINS

NOTE: Asterisks following titles indicate television film productions.

ALLIED ARTISTS

JOSEPH BIROC, ASC, "Reprieve" (Kaufman-Lubin Prod.) with Ben Gazzara and Stuart Whitman. Millard Kaufman, director.

AMERICAN INTERNATIONAL

FLOYD CROSBY, ASC, "Poe's Tales of Terror" (P'Vision Color, Nicholson-Arkoff Prod.) with Vincent Price and Basil Rathbone. Roger Corman, producer-director.

CLAUDIO RACCA, "Warriors Three" (AIP Anglo Amalgamated shooting in Yugoslavia) with Janet Blair and Peter Wyngarde. Sidney Hayers, director.

BILTMORE STUDIOS — N.Y.

JACK PRIESTLY, "Naked City"* (Screen Gems)

BIOGEAPH STUDIOS — New York

GEORGE STUETZEL, ASC, Car 54 Where Are You?"*

WILLIAM SKALL, ASC

Directing the photography of "Window On Main Street" TV film series at the Desilu Gower Street Studios in Hollywood

CASCADE PICTUEES

ROY SEAWRIGHT, Commercials*

HENRY SHARP, ASC Commercials*

COLUMBIA STUDIOS

GORDON AVIL, ASC, "Twist Around the Clock" (Four Leaf Prod.) with Chubby Checkers and Dion

OSCAR RUDOLPH, "Zotz!" (Wm. Castle Prod.) with Tom Poston and Julia Meade. William Castle, producer-director.

JACK MARTA, "Route 66"*.

RUSSELL METTY, ASC, "The Interns" (Robt. Cohn-David Swift Prod.) with Cliff Robertson and Michael Callen. David Swift, director.

ROBERT WYCKOFF, "The Hathaways"*

ARTHUR ORNITZ & JOSEPH COFFEY, "Requiem for a Heavyweight" (Paman Prod., shooting in N.Y.) with Anthony Quinn and Jackie Gleason. Ralph Nelson, director.

WILKIE COOPER, "Jason and the Golden Fleece" (Super Dynamation & Color; Morningside World Wide Prods.; shooting in Italy) with Todd Armstrong and Nancy Kovack. Don Chaffey, director.

BOB HUKE, "The War Lover" (Arthur Hornblow Prod.; shooting in England) with Steve McQueen and Robert Wagner. Philip Leacock, director.

CHARLES WELBORN, "Dennis the Menace"*.

FRED GATELY ASC, "Hazel"*

PHILIP LATHROP, ASC, "Experiment in Terror" (Geoffrey Kate prod., shooting in San Francisco) with Glenn Ford and Lee Remick. Blake Edwards, producer-director.

PHILIP TANNURA, ASC, "Shannon"*.

GERT ANDERSEN, ASC, "Donna Reed Show"*

CHRIS CHALLIS, "H.M.S. Defiant" (C'Scope & Color, G. W. Films, Ltd., shooting in Spain) with Alec Guinness and Dirk Bogarde. Lewis Gilbert, director.

GIUSEPPE AQUARI, "Conga Vivo (Dino de Laurentiis Prods., shooting in the Congo) with Jean Seberg and Gabriale Farzetti. Giuseppe Benatti, director.

DESILU—Cahuenga Studios

NICK MUSURACA, ASC, "The Jack Benny Show"*

ROBERT DE GRASSE, ASC, "Dick VanDyke Show"*; "Danny Thomas Show"*

STU HICKOX, ASC, "The Andy Griffith Show"*

HENRY CRONJAGER, "Joey Bishop Show"*

DESILU—Culver City

GLEN MACWILLIAMS, ASC, "The Untouchables"*

LOTHROP WORTH, ASC, "The Real McCoys"*.

DESILU—Gower Studios

WILLIAM SKALL, ASC, "Window on Main Street"*.

CHARLES VAN ENGER, ASC, "Lassie"*

TED VOIGHTLANDER, "Ben Casey"*.

ROBERT PLANCK, ASC, "My Three Sons"*

FILMWAYS STUDIOS—New York

MORRIS HARTZBAND, "The Defenders"* (CBS) Boris Sagal and Buzz Kulick, directors.

FOX WESTERN AVENUE

JAMES VAN TREES, ASC, "Dobbie Gillis"*

ROBERT HAUSER, "Bus Stop"*

RICHARD RAWLINGS, "Margie"*

GENERAL SERVICE STUDIOS

THOMAS TUTWILER, ASC, "International Golf Show"*.

ROBERT MORENO, "Adventures of Ozzie & Harriet"*

ROBERT HAGER, "Perry Mason"*,

ARCH DALZELL, "Mister Ed"*

HARRY WOLF, "Hennessey"*.

GOLDWYN STUDIOS

MEREDITH NICHOLSON, "The New Breed"*.

INDEPENDENT

BOB DOWNEY, "Candid Camera"*

GENE POLITO "Doin' The Twist" (Keelou Prod.) with Louis Prima and June Wilkinson. William Hole, director.

ERNEST HALLER, ASC, "Point Blank" (Lucas Prod. for UA release) with Sidney Poitier and Bobby Darin. Hubert Cornfield, director.

OZZIE MORRIS, "Term of Trial" (Remus Prod. for Warners Release, shooting in Dublin) with Laurence Olivier and Simone Signoret. Peter Glenville, director.

FRED YOUNG, "Lawrence of Arabia" (Super P'Vision, Eastman color, Horizon Pictures (GB), Columbia release, shooting in Spain) with Alec Guinness and Anthony Quinn. David Lean, director.

PENNY RICHARDS, "Joseph Desa" (Dmytryk-Weiler Prod. for Columbia release, shooting in Rome) with Maximilian Schell and Ricardo Montalban. Edw. Dmytryk, director.

BORIS KAUFMAN, ASC, "Long Day's Journey Into Night" (Ely Landau Prod., shooting in N.Y.) with Katharine Hepburn and Sir Ralph Richardson. Sidney Lumet, director.

FLOYD CROSBY, ASC, "Premature Burial" (Eastman Color & Wide Screen. Roger Corman Prod.) with Ray Milland and Hazel Court. Roger Corman, producer-director.

JOE MACDONALD, ASC, "Taras Bulba" (Harold Hecht Prod. for UA release, shooting in Salta, Argentina) with Tony Curtis and Yul Brynner. J. Lee Thompson, director.

KEYWEST STUDIOS

FRED WEST ASC, (Family Films) Series of Religious pictures.

METRO-GOLDWYN-MAYER

WILLIAM MARGULIES, ASC. FRED MANDL, ASC, 'Cain's Hundred"*

PHILIP LATHROP, ASC, 'Combat"* (pilot).

LUCIEN BALLARD, ASC, 'Guns in the Afternoon" (Color & C'Scope) with Randolph Scott and Joel McCrea. Sam Pickinpah, director.

ARTHUR ARLING, ASC, "Boys' Night Out" (C'Scope & Color. Embassy-Kimco-Filmways Prod.) with Kim Novak and James Garner. Michael Gordon, director.

CLAUDE ROZIER 'Riffi in Tokyo" (Cipra Prod.) with Karl Boehm and Charles Vanel. Jacques Demy, director.

Continued on Page 20

ROBERT deGRASSE, ASC

Starts another year of photographing the "Danny Thomas Show" for television, also shooting the "Dick Van Dyke Show"—both at Desilu's Cahuenga Studios, Hollywood

CECO

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Here is today's PRO JUNIOR which towers like the Empire State over all other tripods. The professional man's tripod with enough features to fill this page — from adjustable pan handle to tilt lock, pan lock and self-aligning double leg lock knobs. And many more

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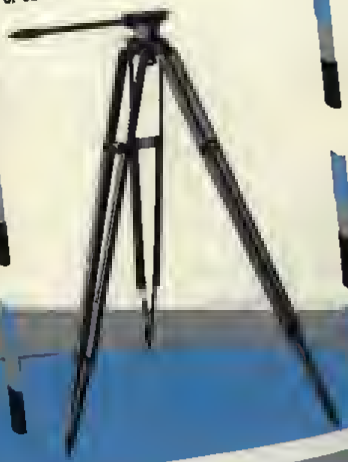

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Some of our own people thought we lost our senses when we said we'd sell the PRO JUNIOR at one-third less than the price of more than two decades ago. But we feel deeply grateful to the thousands of wonderful people who helped CECO grow into the giant of the industry — a gentle giant with a human touch — a giant who is as happy to serve a man who buys a bottle of cement as he is to serve a company repairing a completely-equipped studio. For a comparison of CECO's growth in the past quarter century, see the other side of this page.

FRANK C. ZUCKER

CAMERA EQUIPMENT CO., INC.

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CECO's First Quarter Century

This was the First Team: In the beginning CECO was an idea boro in the mind of an ace cameraman whose experience went back to the infancy of the industry—to Brooklyn and Fort Lee. FRANK ZUCKER knew the kind of equipment and service that a camera crew needed, and he was determined to give it. CECO's eminence was not achieved without a struggle. Courage, loyalty and sacrifice were huilt into the fnundatinn—but CECO thrived because they had your good will and sympathy.

With Frank, theo as now, was Marge Zucker. From a one-girl clerical staff to a large force of nffice personnel was part of the inevitahle developmeot of CECO. Merge still keeps her hand in and the company is better for it.

GENE LEVY: 25 years ago he was a one-man task force—salesman, shipping clerk, vice presidant in charge of maintenance, and office boy. Today, few meo enjoy the warm regard and respect in which the industry hnlds him. Few meo can match his mooumental knowledge of the film business.

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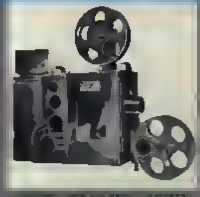

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BEHIND THE CAMERAS

Continued From Page 16

METRO-GOLDWYN-MAYER

ALDO TONTI, "Damon and Phythias" (Color & Wide Screen, shooting in Rome) with Guy Williams and Don Burnette. Curtis Bernhardt, director

MILTON KRASNER, ASC, "Twa Weeks in Another Town" (C'Scope & Color; shooting in Rome) with Kirk Douglas and Edw G. Robinson Vincente Minnelli, director

LUCIEN ANDRIOT, ASC, "National Velvet"*

HARKNESS SMITH, "Dr Kildare"*.

WILLIAM SPENCER, "Cain's Hundred"*

ROBERT PITTACK, ASC, "Father of the Bride"*

PAUL VOGEL, ASC, "Wonderful World of The Brothers Grimm" (MGM Cinerama, Geo Pal Prod.) with Laurence Harvey and Karl Boehm. Henry Levin and George Pal, director

JACK SWAIN, "Rawhide"*.

PARAMOUNT STUDIOS

DANIEL FAPP, ASC, "The Pigeon That Took Rome" (Llenroc Prods; shooting in Rome) with Charlton Heston and Elsa Martinelli Melville Shavelson, producer director

WALTER CASTLE, ASC, HASKELL BOGGS, ASC, "Bonanza"*

JOHN NICHOLAUS, JR., "Outlaws"*.

FRANK PHILLIPS, "Have Gun Will Travel"*

PARAMOUNT SUNSET STUDIOS

FLEET SOUTHCOTT, "Gunsmoke"*

LESTER SHORR, ASC, "Pete and Gladys"*.

PATHE STUDIOS — New York

GEORGE JACOBSON, "Hey Lets Twist" (Harry Romm Prod., Paramount release) Gregg Garrison, director

REPUBLIC STUDIOS

CARL GUTHRIE, ASC, "The Third Man"*

CHARLES BUAKE, 'Target the Corruptors"*.

GEORGE DISKANT, ASC, "Dick Powell Show"*

WILFRID CLINE, ASC, "Robert Taylor Detectives"*.

HOWARD SCHWARTZ, "Mrs. G Goes to College"*.

REVUE STUDIOS

ELLIS THACKERY, ASC, NEAL BECKNER, "General Electric Theatre"*.

WILLIAM MARGULIES, ASC, DALE DEVERMAN, IRVING LIPPMAN, RAY FLIN, "87th Precinct"*.

HENRY FREULICH, ASC, BENJ KLINE ASC, Thriller"*

BENJ KLINE, ASC, EMIL HARRIS, "Bachelor Father"*

JOHN WARREN, ASC, ELLIS THACKERY, ASC, ELLSWORTH FREDRICKS, ASC, "Alcoa Theatre"*.

JOHN WARREN, ASC, "Wells Fargo"*.

RAY FLIN, WILLIAM MARGULIES, ASC, 'Frontier Circus"*.

FRED MANOL, ASC, ELLIS THACKERY, ASC, "Checkmate"*.

JOHN WARREN, ASC, ROBERT GOUGH, "Tall Man"*.

RAY RENNAHAN, ASC, "Laramie"*.

ELLIS THACKERY, ASC, "Wells Fargo"*

WILLIAM MARGULIES ASC, The Investigators'*

DALE DEVERMAN, JOHN WARREN, ASC, "Alfred Hitchcock Presents"*.

RUSSELL HARLAN, ASC, "The Spiral Road" (Shooting in Dutch Guiana) with Rock Hudson and Genea Rowlands. Robert Mulligan, director

JACK MACKENZIE, ASC, "Ichabod and Me"*

NEAL BECKNER, "Bob Cummings Show"*.

WALTER STRENGE, ASC, "Wagon Train"*

MACK STENGLER, ASC, "Leave It to Beaver"*.

DOUGLAS SLOCOMBE, "Freud" (shooting in Munich) with Montgomery Clift and Susannah York John Huston, producer director

TWENTIETH CENTURY-FOX

TED SCAIFE, "The Lion" (Deluxe color & C'Scope shooting in Africa, Samuel G. Engel Prod.) with William Holden and Capucine Jack Cardiff, director

JACK RUSSELL, ASC, "The Cabinet of Caligari" (API Prod.) with Glynis Johns and Dan O'Herlihy. Roger Kay, producer director

WILLIAM MELLOR, ASC, "Mr. Hobbs Takes a Vacation" (Jerry Wald Prod.) with James Stewart and Maureen O'Hara Henry Koster director

ARTHUR ILMETSON, "Nine Hours to Rama" (C'Scope, Deluxe color; Red Lion Prod., shooting in India) with Horst Buchholz and Jose Ferrer Mark Robson, producer-director.

LEE GAAMES, ASC, "Hemingway's Young Men" (C'Scope & Color; Jerry Wald Prod.) with Richard Beymer and Paul Newman. Martin Ritt, director.

Continued on Page 60

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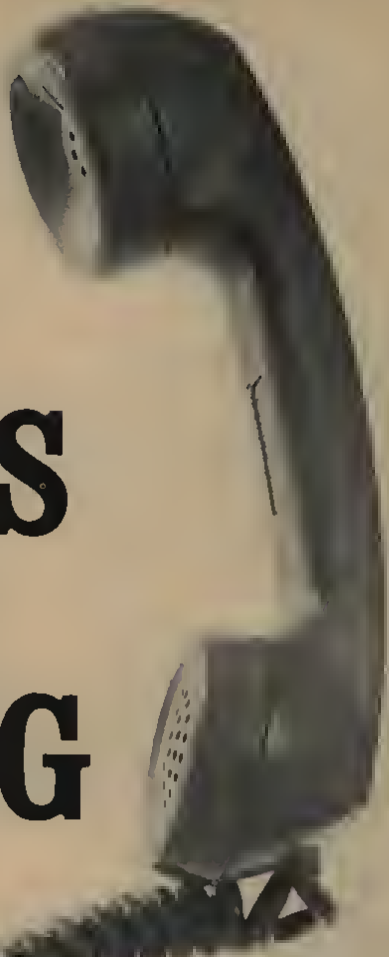

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ARRIFLEX I, 3 Goerz Apogar Lenses, 200' magazine, motor $495 00
MITCHELL SINGLE SYSTEM, 4 Baltar lenses 3 1000' magazines, viewfinder, matteboxr 12V motor, Meduline galvenometer Originally $9000 ..... $3950 00
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B & H 70A with handgrip, single lense adapted for S mount $149 50
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BOLEX converted 400' mag reckever, telescopic finder 110/24v motor Close out, good as is $295 00
MAURER 05; Synchmatic, 400' magazine, viewfinder, 3 lens turret Originally $5500 ..... $1995 00
B&H FILMO Turret Automaster Autoload, f1 9 lens, case Originally $350 ..... $69 50
CINEPHONIC, Magnetic recording, 400' Mitchell mag 3 Elgeet lenses turret transistor amplifier power supply, mike Pre Jr tripod and triangle Originally $3000, likenu $1495 00

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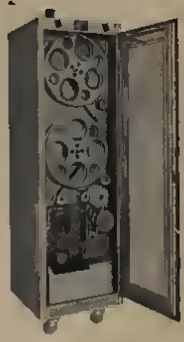

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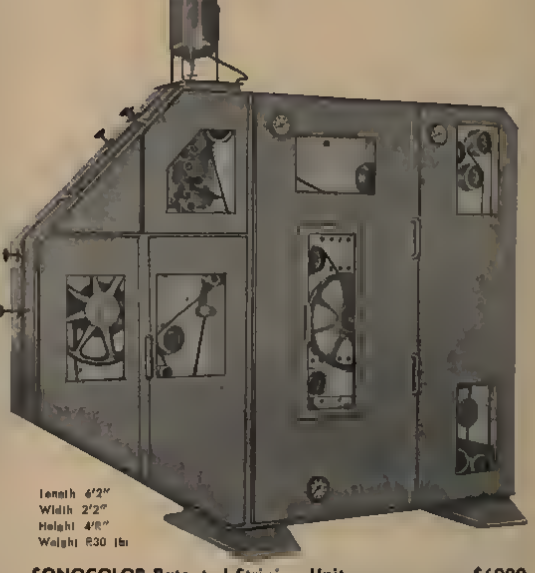

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Q & A

Technical Questions and Answers

Q.— *I am preparing to shoot a mystery story in which the villain of the piece is revealed in the final scene when a long-lost negative is found and a print made which reveals his identity. The script calls for this denouement to take place in a photographer's darkroom. How can I successfully photograph in a darkroom the action of the paper print gradually becoming an image in the solution tray?*—B. H. McK., Chicago, Ill.

A.— Tom Sullivan, in his article "More Camera Magic" in the Summer 1960 issue of *Boley Reporter*, explains how another film maker solved exactly the same problem:

"Photographing the actual development (of the print), of course, was impossible because the necessary lights would ruin the paper," he explains.

"All through his plot," Sullivan said, "the identity of the villain was shrouded in mystery, and the darkroom sequence was to be the key shot—deliberately contrived to build tension. He had to have it in the final production. Here is how he worked it out!

"Upside down photography was the key. A fully developed and fixed print of the villain was placed in a strong bleach bath and the producer filmed the image as it slowly disappeared. When this shot was edited into the final product the footage was turned upside down to get the effect of the image coming into view. No light-sensitive materials were used and the darkroom scene was lighted with two photofloods, one directed toward the developing tray, the other on the face of the spectators to provide plenty of heavy shadows.

"No confusion of human movement from the upside down process occurred because the scene was shot in tight closeup, and only the tray with the print in the process of 'developing' appeared on the screen. The print, of course, had to be wetted before being placed in the solution, since the action of inserting it in the liquid became, in reverse, the action of removing it."

Q.— *A scene in a script I shall soon start shooting specifies that "falling rain must be seen through the window." The action takes place around midnight in the Warden's office of a State Prison. How can the rain effect be achieved without the sound of water falling in a tub, etc., since dialogue will be recorded at the time the scene is photographed*—D. G. Leonard, Mich.

A.— To eliminate sound of falling water, reduce volume of water to barest minimum. Illusion of rain will be more effective if window pane is wetted to show rain drops clinging to it. As shot is filmed, spray pane of glass lightly with garden hose. Instead of having water fall into a tub, lay padding on floor beneath window, after first protecting floor with sheet of plastic material. Lighting should come from the side and slightly above, to highlight the raindrops effectively.

Q.— *I wish to copy some 35mm color slides on 16mm color film. Can I photograph the slide direct, or should a print be made and photographed in a titler? Or can satisfactory copies be made by projecting the slides on a screen and photographing them?*—P. H. Malibu, Calif.

A.— The best method is to mount slide in titler or similar device, illuminate it from rear and photograph it. Your problem, of course, is what exposure to use. Here you can follow one of two methods: use reflected light meter close to slide, or make a series of tests shots to determine best exposure. We recommend the latter. MGM chose the illuminated transparency method some years ago to bring to screen reproductions of several paintings for the story of van Gogh. Here, meter readings were taken to arrive at approximate exposure, but test shots provided final answer. ■

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FIG 1—Shooting a scene on location for "How The West Was Won." Note the plastic bubble which encloses the Cinerama camera's three lenses in the blimp; also the lightweight, portable incandescent lamp clusters used at side and atop the camera to provide fill light

FIG. 2—Here the Cinerama camera is set low for a scene enacted by Debbie Reynolds, Karl Malden and Carroll Baker. Director Henry Hath away watches scene rehearsal from behind the camera. Portable inky lights are again used here to augment studio lights

Cinerama Goes Dramatic

Photographing "How The West Wos Won" in Cinerama posed some interesting problems never before encountered with the comera that introduced the first commercial super-wide-screen motion pictures.

By WILLIAM DANIELS, ASC

FIG 3—The author, William Daniels, ASC, and Director Henry Hathaway (seated) take a coffee break while watching actors Gregory Peck and Debbie Reynolds (out of picture) rehearse upcoming scene for "How The West Wos Won," an MGM Cinerama production

"HOW THE WEST WAS WON," a Metro Goldwyn Mayer-Cinerama production, is the first dramatic picture to be photographed in the Cinerama process. Along with Charles Lang, Jr., ASC, and Joseph LaShelle, ASC, who photographed other segments of this production, I had the rewarding experience of directing the photography of segment No. 2, which stars Debbie Reynolds and Gregory Peck, and which was directed by Henry Hathaway and produced by Bernard Smith.

Applied to the production of a dramatic picture, Cinerama poses many new and interesting problems, both for the director and the director of photography. It presents certain limitations, too, in contrast with conventional single-camera photography. The major one, perhaps, is that posed by the camera's three 27mm lenses which, together, take in a field of view 143 degrees wide and 55 degrees high and record it on three separate strips of 35mm film.

The Cinerama cameras we used to photograph "How The West Was Won" are basically the same as those which have been used to photograph Cinerama travelogues since 1952. A Cinerama camera is actually three cameras in one—that is, three separate negatives run through the camera past three lenses, which cover the system's 143° X 55° aspect ratio, and record one-third of the scene on a

frame of each negative. A single rotating shutter moving in front of the lenses at a point where their lines-of-view cross, effects the simultaneous exposure on the three strips of film. (See Fig. 5.)

Prints of the resultant negatives are shown with three projectors which screen the three film strips at precisely the same angle of view which they were photographed, so that the images become one—of super-wide-angle dimension—on a large horizontal curved screen.

The camera, exclusive of the film magazines, consists of the shutter, lenses, motor, and driving mechanism. There are three film movements, which are separate units—chambers about the size of a cigarette box—which are attached to the magazines prior to mounting on the camera. All three movements are interlocked, thus insuring absolute sync of the three films moving through the camera.

The exposure is variable but not separately for each lens. The diaphragm controls of the lenses are interlocked so that it is impossible for one lens to be set at one stop and the other two at different stops. Each lens is precisely calibrated to insure highest accuracy, for there can be no difference in focus between the three frames of film which are recorded simultaneously and comprise a single "exposure." The lenses are not immediately removable from the camera, as is the case with other production-type cameras, such as the Mitchell, and there is no lens turret. Actually, there isn't room for a turret in that area of the camera where the lenses are mounted, as may be seen in Fig. 5.

This necessarily brief description of the Cinerama camera is given here to familiarize the reader with its design, components, and use in production so that he may better understand references that will be made to it in paragraphs that follow.

In the course of using the Cinerama camera, two descriptive terms developed which have since become standard with us. They are "panel" and "blend line." "Panel" describes any one of the three segments of the 143-degree scene or picture area being photographed or projected. "Blend line" describes the line of demarcation between the three panels. Ideally, the blend line is imaginary, although it is often visible on the screen and it becomes one of the chief problems in Cinerama photography to minimize if not entirely eliminate any evidence of

Continued on Page 50

FIG 4—Principal players in segment No 2 of How The West Was Won, photographed by William Daniels, ASC From left are: Gregory Peck, Thelma Ritter, Robert Preston and Debbie Reynolds Production is first story-telling motion picture filmed in the giant screen Cinerama process

FIG 5—Front view of Cinerama camera, as it appears with blimp removed, and showing how closely mounted are the three 27mm lenses

FIG 6—Three quarter front view of camera shows angular mounting of the film magazines and also of the two side lenses, A and C

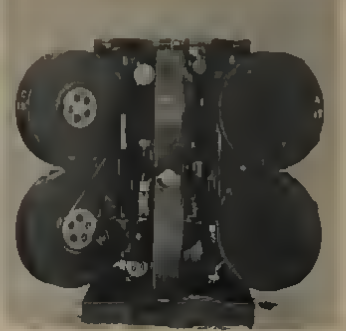

FIG 7—Rear view of camera Here the positions of the three magazines are shown in relation to the camera

FOUR SCENES above from "El Cid" reveal something of the pictorial scope, composition and lighting which mark the production from beginning to end. Photographed in Spain with 70mm Technirama cameras by British cinematographer Robert Krasker, aided by Manuel Berenguer, ASC, 2nd unit cinematographer, the production is notable for its daring and imaginative photographic concept.

The Photography Of "El Cid" In Technirama-70

By HERB A. LIGHTMAN

IN MOST OF THE CURRENTLY popular motion picture "epics" — the three-hour-plus, multi-million dollar, super-wide-screen spectacles — the potential of truly creative camerawork is usually sacrificed in favor of mass mob action and tediously stylized performances by film stars self-consciously aware that they are enacting period drama. The result, all too often, is a curiously static camera, seemingly overwhelmed by what is going on before it.

It is true, of course, that there are moments in most of these films when the camera manages to escape from its shackles long enough to explore the full scope of a particularly striking piece of action. "Ben Hur" had its chariot race, "Spartacus" its revolt of the slaves, "The Alamo" its climactic battle of the same name, and "King of Kings" had its Sermon on the Mount. But in every case such sequences have stood out as separate units of the picture, visually exciting in themselves, but not

"of-a-piece" with the rest of the film in style or technique.

"El Cid," it may be happily observed, is the exception. It is an unabashed spectacle from the first frame to the last—filled with shattering action sequences so smoothly integrated with the quieter dramatic passages of romance, intrigue and idealism that they become areas of brilliant cinematic color in a tightly woven tapestry.

The extraordinary photography of British cinematographer Robert Krasker is so daringly conceived and executed that it creates an excitement all its own, while at the same time perfectly complementing and enhancing the many facets of the action.

The total result is a convincing demonstration of the alchemy that can transpire when a cinematographer of the highest technical skill is given free rein to express his artistry consistently and in complete rapport with the other key technicians on the film. The photography of "El Cid" emerges, in consequence, not as a veneer of mechanical craftsmanship spotily superimposed over the body of the film, but as an inseparable element of the total artistic whole. The smoothly amalgamated creative entity which is "El Cid" reflects in its photography the sensitive and virile direction of Anthony Mann, the succinct screenplay of Frederic M. Frank and Philip Yordan, the authentically spectacular production design and costuming of Ventero Colasanti and John Moore, and the tautly forceful editing of Robert Lawrence.

But it is the bold and daring photography of "El Cid" which gives special luster to these creative con-

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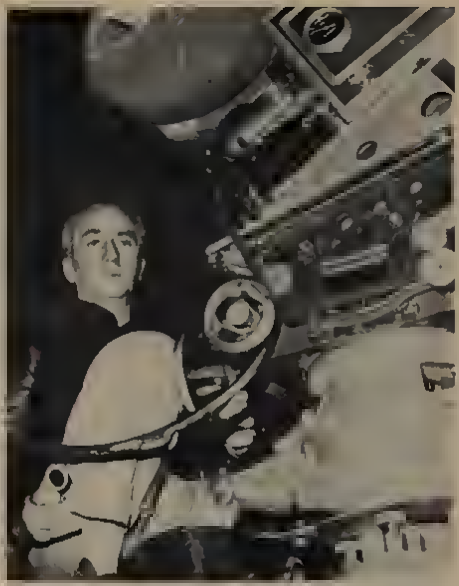
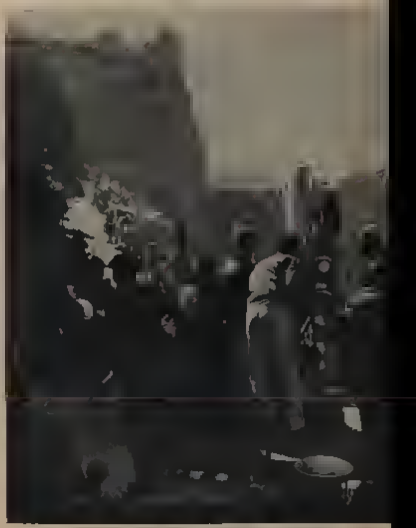


ROBERT KRASKER, one of England's ace cinematographers, directed the photography of Samuel Bronston's "El Cid," using the 70mm Technirama camera shown in picture. Latter is modified Technicolor camera, having lateral, VistaVision-type film movement instead of vertical, and film magazines mounted side-by-side on top of the camera.



CINEMATOGRAPHER Robert Krasker and his crew line up a shot for a battle sequence of "El Cid," which was filmed in Peniscola, Spain—ancient walled city on the Spanish Mediterranean coast.

THE 70mm TECHNIRAMA camera is mounted high on a boom to photograph battle scenes staged on picturesque beach skirting the Spanish Mediterranean. It was here that Krasker photographed some of the most dramatically important scenes for the picture.

Progress Report

Proposol of ASC's Research and Educational Committee to include DC restoration in home TV receivers being considered by set manufocturers. Committee holds that addition of low-cost component to set will result in greatly improved reception quolity of filmed TV programs.

By WALTER BEYER and HAL MOHR, ASC
Chairman and Co-chairman respectively, ASC Research and Educational Committee

As STATED IN the closing paragraph of our last report (*American Cinematographer*, October, 1961) this committee has been active in exploring ways and means for improving the quality of the reception of black-and-white TV film programs on home receivers. This project is a follow-up of a proposal which had been submitted earlier by Co-chairman Hal Mohr, ASC, who had previously contributed substantially as an advisor on the original tests and demonstrations conducted by the Motion Picture Research Council in Hollywood before it was disbanded in November, 1959. (The Council was finally terminated in March, 1960).

The main problem involved in this project is based on the fact that the picture tube of a home receiver does not behave like an ordinary motion picture projection screen, insofar as gray scale reproduction is concerned. To a very specific degree it is more or less a screen "that thinks for itself" in its interpretation of overall scene content.

As a result, substantial picture deterioration takes place mostly on scenes of critical overall density distribution, such as in the well known "cowboy against the sky" scenes, most night shots, and especially "mood" photography. As one technical author has well put it: "A mood shot, such as a romantic moonlight walk, looks like an overexposed picture taken by an amateur with a box camera on a cloudy day."

How DC Restoration Works

Consider yourself a director of photography who has applied all his professional capability and skill in the original photography of such a scene, and you will understand that the above subject matter of home receiver picture quality is of great concern.

This situation does not need to be as bad as it is. TV set manufacturers have it in their hands to restrict this undesirable freedom of the home receiver tube by providing what is called a circuit with DC restoration.

The existing situation is, as follows:

Most black-and-white TV receivers in homes have no DC restoration.

Consider the signal transmitted from the station as having black and white information encoded as high and low voltages. The receiver has to decode this signal and present it as proper black and white on the home receiver tube.

Without DC restoration the receiver will improperly decode the signal depending on scene content, and display "black" information as light, washed-out gray or, conversely, under other conditions of scene content, may improperly decode so as to display "gray" information as black.

Was Included In Early TV Receivers

Relatively simple circuits can be designed and built into TV receivers to insure proper decoding of signals under all conditions of scene content, so that black information is always correctly displayed as black on the picture tube. The various conditions of scene content refer to relative areas of black to white (integrated full frame density).

DC restoration, which this committee proposes should again be made a component in the circuits of modern home television receivers, is nothing new or untried. It was part of the standard equipment of almost all the receivers marketed at the beginning of the TV era.

If all the black-and-white films photographed for TV, or considered to be released for TV, were reviewed on nominal closed-circuit systems or any of the present-day TV receivers instead of on a motion picture projection screen or the precision monitors found in the television stations, the need for DC restoration would be undeniably demonstrated and it is likely that restoration of this facility in future home TV sets would follow.

The Motion Picture Research Council had recognized the gravity of the situation introduced by the absence of DC restoration in home receivers and had been active in developing means to correct it. With its closed circuit TV system, the Council conducted numerous tests which culminated in a

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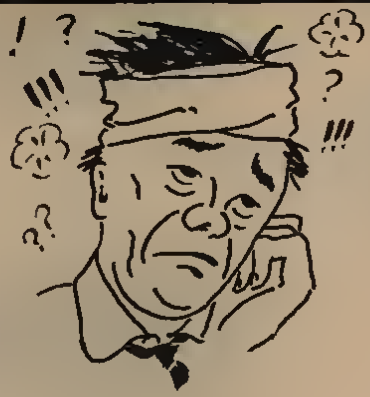

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IN SETTING up to shoot a scene for a high school biology series, the Calvin system utilizes two blimped Mitchell-16 cameras. Camera at left is fixed while the other moves on dolly tracks. Closed-circuit TV cameras (arrows) mounted to right of each film camera provide visualizations for the director located some distance away in the sound booth.

Streamlining Production Methods

How Colvin Productions, Inc., utilizes film and electronic cameras in combination to save time and production costs.

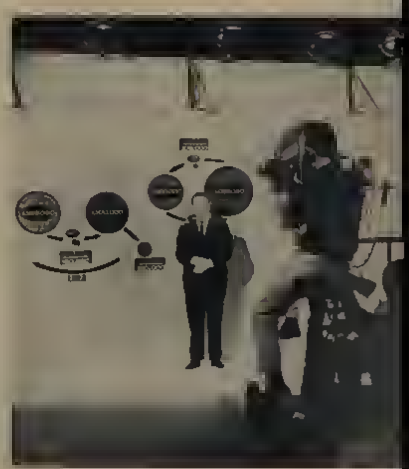
By MARK SANDERS

SHOOTING TIME on short, non-theatrical motion picture productions can be reduced by as much as 60 per cent by streamlining direction and production techniques, according to experience at Calvin Productions, Inc., Kansas City, Missouri.

Calvin's streamlined production techniques involve use of two cameras on every shot, with camera operations directed by the director sitting before two TV monitors fed by closed-circuit TV cameras mounted on the film cameras.

No one at Calvin claims this method is "new"—only that Calvin has successfully applied the method of utilizing film and electronic cameras in combination to save time and cut costs in producing low-budget films.

Working on a series of educational films on high school biology recently, a Calvin crew under the direction of Larry Kauffman completed photography for a 30-minute color/sound film in two-and-one-half



CAMERA OPERATOR and grip handling dolly wear headphones through which they receive instructions from the director as he observes the camera pick-up on closed circuit monitors

hours. Of this total production time, about an hour-and-a half was spent lighting the three sets used for the production. Actual camera work was completed in about an hour.

Kauffman readily admits this was an unusual case. To start with, the people involved knew their job. The film was one in a series prepared under the sponsorship of the American Institute of Biological Sciences and part of an integrated curriculum designed to upgrade the teaching of biology at the high school level.

"Talent" for these films was recruited from among the top science professors from all over the country. The specific show during which Kauffman set his production record featured Dr. Curt Stern of the Department of Zoology, University of California. Dr. Stern had prepared his lectures so well that the entire 30-minute film was shot in four takes.

Admittedly, this won't happen every time. Sometimes it takes five or six hours—occasionally seven—to shoot a 30-minute film. By conventional methods, two or three days would be required.

Other Applications Seen

The people at Calvin feel that the same multi-camera techniques which made the speedup possible on the biology series also has great potential in other areas of professional motion picture production, such as industrial, religious, and television films. To develop a comparison, Kauffman was asked how long it might take—using the same techniques—to shoot a half-hour television drama, which conventionally requires two-and-one-half days.

He qualified his answer by explaining the forecast as based on the availability of competent talent who would require a minimum of retakes. The estimate also covered a situation where a production would be limited to five sets, with shooting done from 10 camera angles. Under these conditions, Kauffman feels, a half hour television show could be filmed comfortably in one day, using the multi-camera, TV-guided method of photography.

Three 16mm Cameras Used

This Calvin production method is actually sort of a hybrid. It borrows much of its methodology from live-action television production. But, it also relies heavily on the flexibility of standard motion picture production practices—particularly in the method of rehearsing takes and editing the finished product.

In shooting the high school biology series, Calvin used three 16mm motion picture cameras. Two Mitchells were on the set. A third unit, an Arriflex, was used for closeups of models, on-set visuals and other utility shooting which could be done while the cast was rehearsing elsewhere.

One of the two Mitchell cameras which filmed the action was on a dolly which was mounted on tracks so that it could be moved freely in and out as the action required. The other was used mostly for closeups. It was usually set up in a single position at the beginning of a scene; the only movement was in panning.

On the right-hand side of each Mitchell camera, Calvin mounted a General Precision Laboratories closed-circuit television camera. The TV units were precisely mounted so they would cover the same

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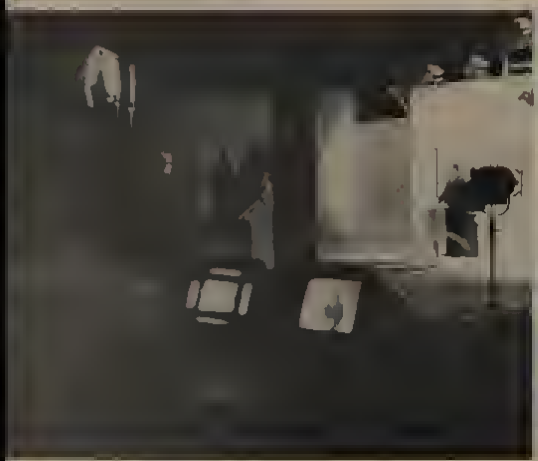

IN THE SOUND BOOTH in one corner of the stage, the director has clear view of set as well as the images before him on the TV monitors. Although all camera movements are pre-planned and cued, director occasionally changes procedure during filming.

THE DIRECTOR'S monitors and console fit snugly into a corner of the sound booth. Strips of masking tape applied over face of monitors indicate areas covered by the camera lenses. Sync sound is recorded on magnetic tape, then re-recorded to optical track.

NEW MODEL P-400 Newman-Sinclair electric motor-driven 35mm camera fitted with 400-ft magazine and a SOM Berthiot Pan Cinor zoom lens. Camera features a mirror reflex shutter.

CAMERA WITH magazine detached. Here the reflex finder and eyepiece is clearly shown. Arrow points to follow focus attachment, which is optional equipment.

The Newman-Sinclair Motor-driven 35mm Camera

Portable, lightweight Model P-400 succeeds the famous Newman-Sinclair "clockwork" camera, long papular with British cinematagraphers.

By BRIAN R. EVERETT
Seven Seas Films, Ltd., London

NEWMAN-SINCLAIR, one of the pioneers in British camera manufacture, recently introduced its new Model P-400 portable 35mm motion picture camera, which boasts a number of interesting features and accessories. As with all Newman-Sinclair cameras, each one is virtually hand-made to high standards long established by the company.

Among the features of this new camera are register-pin film gate, rotary divergent lens turret, reflex mirror shutter, quick demountable film magazines, electric motor drive, and a rugged camera body 7" x 7" x 9". The basic camera component consists of the intermittent mechanism and gate assembly, the mirror-shutter and its reflex viewing system, the rotary turret and a 12/18-volt variable speed motor.

The intermittent is based on the "clamping gate" design that has been incorporated in Newman-Sinclair cameras and printers since 1900. The gate has fixed register pins at the bottom — one on either side. When the film is moved down by the claw, the back of the gate hinges back slightly, thus clearing the register pins. Incidentally, this same type gate was for many years incorporated in the company's spring-motor cameras. Although the clamping action of the gate tends automatically to keep the aperture clean, the gate can be instantly removed for inspection and cleaning.

The ruggedly-designed three-lens rotary turret featues divergent lens orfices, so that wide-angle and telephoto lenses may be mounted thereon without interference with other lenses. Lenses are mounted

Continued on Page 58

A FIBREGLASS blimp available for the Model P-400 weighs 65 pounds, and provides external focusing controls with the dials on either side.

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ALTHOUGH ABOVE photos show the Ruggles-Whalen company shooting scenes openly in Hong Kong streets for their initial production, "Out of the Tiger's Mouth," actually most exterior filming had to be carried out unobtrusively, with camera and operator concealed. In above photo director Tim Whalen rehearses a scene.

FILIPINO cinematographer Emmanuel I. Rojas waits word from director Whalen to roll the blimped Arriflex 35 camera. As in Hollywood, interested spectators watch proceedings with mingled interest.

HONG KONG FILMING VENTURE

Photographing "Out of the Tiger's Mouth" in Hong Kang streets was touch-and-ga. The cameras necessarily were concealed mast of the time and same night shats were made with light from a single Coleman lantern.

By CHARLES LORING

TO PHOTOGRAPH "Out of the Tiger's Mouth" entirely on location, among the teeming masses on the streets of Hong Kong, Wesley Ruggles, Jr., and his partner in production, Tim Whalen, Jr., developed a unique production technology. This was necessary in order to conceal from the public the fact movies were being shot there. Otherwise, it would have been necessary to spend a considerable sum on police assistance to control the swarms of curious onlookers who invariably congregate and hinder filming. And Ruggles and Whelan wanted especially an aspect of complete naturalness in their street scenes, unmarred by gaping onlookers in the background.

Understandably, a low-budget feature such as theirs had no appropriation for the protective services of police. Thus, ways and means were developed to shoot the picture with extremely portable camera and sound equipment that could readily be concealed from public view when necessary, but without hindering the picture's pictorial quality.

The choice of a reflex-type camera was logical because much of the filming would be done with long focal length lenses under catch-as-can circumstances; and also, running a tape on distances would be impossible. Through-the-lens viewing would solve these problems and insure scenes in focus.

The Arriflex-35 was chosen for the job. It could easily be concealed, along with the operator, within a truck interior, beneath large crates, and wicker

MUCH OF the picture was shot with camera concealed within a panel truck. Doors were opened only moments before scene was to be filmed. Tensely watching action and ready to roll camera are Whalen (left) and camera operator Vicente Sempio

haskets—vital because more than 80 per cent of the pictures' exteriors were to be filmed in the crowded thoroughfares of Hong Kong.

The next problem to receive attention was that of sound recording. "A few years ago," Ruggles recalled, "I had read an article in *American Cinematographer* about a method of using quarter-inch magnetic tape to record synchronous sound, in which sync was insured by a signal generated by the camera and recorded simultaneously with the picture-sound on the tape. As a result of this article, I investigated the method when we started to plan our picture, and found it ideally suited to our needs. The Arriflex cameras we used were fitted with a sync-signal generator, and a quarter-inch magnetic tape recorder was used in conjunction with them to record sound for all dialogue sequences."

The recorder was a late model Stancil-Hoffman with a Ryder-Concertone sync-pulse head. For obvious reasons, conventional sound booms and microphones could not be used when shooting exteriors. Considered as an alternative was a lavalliere microphone, but this presented certain hazards because of the wires which would necessarily trail from the actors. So there could be complete freedom from any such obstacles, a tiny wireless throat microphone, easily concealed in an actor's clothing, was used along with a miniaturized transmitter which he carried in his pocket. The microphones, made in Tokyo, effectively picked up dialogue with the actors as far away from the recorder as a hundred feet.

The power supply for operating camera and recorder consisted of a transistorized inverter weighing 8 pounds, which effectively converted the power from a 12-volt automobile storage battery to 50-cycle, 110-V A.C.—corresponding to the domestic power supplied Hong Kong. This permitted, whenever necessary, an instant and convenient switch from one type power source to the other. The power pack was contained in a case no larger than a standard lens case, and the 250 watts of electrical current it produced was more than ample to efficiently drive the camera and the sound recorder simultaneously.

When Ruggles and Whalen learned that it would cost as much to rent an Arriflex camera in Hollywood and ship it by air as it would to buy a new one in Hong Kong, they purchased two of them and rented a third, complete with blimp, from a Hong Kong film company. Standard lenses were available locally, but telephoto, wide-angle and zoom lenses, as well as the required Wratten and Harrison filters, had to be secured in Hollywood.

To direct the photography of their picture, Ruggles and Whalen wanted an experienced cinematographer fully familiar with the ways of the Orient, as well as one having the physical stamina and the willingness to work under such trying conditions as crouching with camera in a wooden crate or wicker basket for interminable periods in order to get the kind of candid, documentary-like photography which the producers expected.

Earlier, they had seen a preview of a film which actor George Montgomery had made in the Philippines for Warner Brothers, and which had been photographed by Manila cameraman Emmanuel I. Rojas. They were impressed by the beauty and artistry of Rojas' photography. En route to Hong Kong, they stopped off in Manila and visited Rojas who, after reading the script for "Out of the Tiger's Mouth," enthusiastically agreed to photograph it.

"Discovering and engaging Rojas," said Ruggles, "was a genuine stroke of good luck for us. He was so faithful to the script, so knowledgeable in his art, and so pleasant to get along with that we got on film even more than we had written into the script. Without Rojas, we never would have gotten the results we did."

The plot of "Out of the Tiger's Mouth" concerns two small Chinese children, refugees from Red China, who make their way to Hong Kong. The "leading lady," a five-year-old charmer named Han-

Continued on Page 54

"Shyaka'

THE MOST AMBITIOUS motion picture ever to be produced in the Far East is Daiei Studios' new epic, "Shyaka," the life of Buddha. The picture reportedly is the most costly ever made by an Asian studio and it is the first 70mm production to be filmed in the Far East.

Masaichi Nagata, Daiei president, whose studio is remembered for "Rashomon," "Ugetsu" and "Gate to Hell," has been eager for several years to produce a religious epic for the Orient comparable to Hollywood's "Ben Hur" and "The Ten Commandments." With the expenditure of the equivalent of $1,500,000 — five times the sum spent for Japan's previous top-budget picture—Nagata's hopes have finally reached the screen.

Modified VistaVision Camera

The task of photographing this enormous undertaking was handed to Hiroshi Imai, veteran Daiei cinematographer. He employed two VistaVision cameras which had been modified for 70mm photography. The process is called Daiei Super-70 Technirama. Imai also used two Mitchell NC's equipped with DaieiScope lenses

REMINISCENT OF DeMille film epics are scenes at left from Daiei Studios' "Shyaka" (Life of Buddha) produced in Japan. Scenes are from climactic earthquake sequence which culminates in destruction of giant Buddha statue and all surrounding structures. Destruction was filmed simultaneously by several cameras set up at strategic positions

—Japan's First Epic Production In 70mm

Produced in the DeMille traditian, it was phatagraphed with modified VistaVisian cameras by veteran cinematographer Hiroshi Imai.

By CLIFFORD V. HARRINGTON

for added covereage on all large-scale and "one-take" sequences.

The picture "Shyaka" tells the story of the young Indian prince, Siddhartha, who turned from a life of wealth and pleasure to become Buddha, the enlightened one. Starring in the film are Kojiro Hongo and Charito Solis, the latter a well-known actress from the LVN Studio in the Philippines. The rest of the cast includes virtually every available actor on Daiei's Kyoto and Tokyo lots. Machiko Kyo, the studio's international star, played a minor part in the film.

To supplement the studio's player personnel, the Kyoto region was scoured for available school boys, farmers and housewives who were put into costume as extras. The studio reported that the total number of such players used reached 20,000 before the film was completed.

Imai had two months to plan for the photography of the film, an unheard of luxury in Japan where one week is the norm. In addition, Director Kenji Misumi, Imai and other top production personnel spent two weeks in India, Buddha's birthplace, doing production research and studying locales. Everything possible was done in the pre-planning to give the picture utmost authenticity.

The entire film was shot at Daiei's Kyoto studio and on location in the surrounding plains and hills. Because of the dimensions of the 70mm format, no rear screen projection shots could be made on the sound stages; thus, all exteriors were shot in real outdoor locations.

When we visited cinematographer Imai in Kyoto, he tended to minimize the success of his achievement and said that he found 70mm photography little more demanding than the conventional format.

Without any previous experience in 70mm, Imai had to start from scratch. He read all available literature on 70mm photography. Then he started to work. His knowledge of color already had been established. He already had aided the studio win numerous international prizes, including an Academy Award for his color consultation on the film, "Gate of Hell."

Imai's major technical problem was lighting. The studio's equipment resources were strained from the moment the production started.

Continued on Next Page

DIRECTOR OF PHOTOGRAPHY Hiroshi Imai stands behind one of Daiei Studios 70mm cameras (a modified VistaVision) while Director Kenji Misumi (left) directs an action scene for "Shyaka." Vast panoramas caught by Imai's camera provide the film with moments of great spectacle—first ever filmed in 70mm in Japan.

"SHYAKA" IN 70MM

Continued From Preceding Page

It required nearly half a day for technicians to light the first vast interior set. Most of the lighting units on the lot were crammed into the large sound stage. Three other films in production at the time were halted, while the shooting of interiors for "Shyaka" was in progress. The full electrical capacity of the studio was utilized on this one set alone.

Once shooting started on this picture it continued for 153 days without a break. Fortunately, sunshine prevailed whenever the company shot outdoors. Seasonal rains occurred when the crew moved indoors.

Unique Pictorial Effect

Outdoor night shots actually were made on location after dark. Imai used every electric generator on the lot to power his lights for several important night sequences. On one occasion nearly one hundred were in operation at one time.

One particularly breathtaking sequence in the production depicts Buddha talking to his followers in a vast tiered hall. The worshipers, holding small lighted lamps, literally covered the tiers, and the entire set appeared to be illuminated with hundreds of tiny slivers of yellow flame. Here Imai's skillful lighting subtley enhanced the pictorial effect.

The eery forest where the Indian prince performs his meditations had just the visual quality needed for the important sequences shot there, and Imai's lighting and imaginative camera work gave a mystical aura to the scene in which the prince finds enlightenment.

On one occasion two obstinate elephants held up the photography of a sequence in which Buddhist monks were being persecuted. The great beasts had been rented from a circus, because there is no pool of trained movie animals in Japan. They had been trained to walk carefully around human beings. When the time came for them to put their feet near the actors' faces, the animals refused. Finally, false elephant feet had to be substituted and the action shot in close-ups.

The most impressive moments of spectacle in the film come when a four armed pagan idol, more than 80 feet high, topples to the ground during an earthquake. To photograph this important sequence, Imai employed additionally the two DaieiScope cameras to provide photographic coverage from all angles. Later, the footage from these cameras was blown up to the Super-Technirama format. Closeups of the cracking and crashing statue were filmed in miniature, and these shots blend exceptionally well with the life-size action in the corresponding long shots.

Impressionable extras and technicians on the film became convinced that Buddha was watching over the production. While tons of masonry fell to the ground, during filming of the earthquake sequences, no one was injured although often several cues were missed and actors barely escaped the hurtling plaster and beams. The cameras caught several grim moments of real terror.

Imai worked for two months before he saw any rushes of the 70mm footage. Processing of film shot with the converted VistaVision cameras was done at Technicolor's London laboratories, the DaieiScope footage was processed in Japan. When a print of the first processed footage arrived by plane from England, studio personnel hoarded buses late one night for the hour-long trip to an Osaka theater that had been equipped to screen 70mm film.

"I was a bit nervous," Imai said. "We all trooped into the theater and sat down to see two minutes of film. There were only two hundred feet in that first shipment. And there wasn't any accompanying sound."

Upon completion of the photography in Japan, a Daiei representative traveled to London to supervise the laboratory work.

The Sound

The sound had been recorded in Japan on three tracks, one each for music, effects and voice. These were then re-recorded in the laboratory on one or more of the six magnetic tracks required for 70mm film. Several process shots which had been filmed on separate negatives in Japan were processed and then combined in the printing rooms of the London laboratory.

Imai did not see the full results of his handiwork until the completed picture was shown in Japan several months later. In Japan's fast moving motion picture industry, he had already completed another film and had started photography on a third.

The quality of the color and the clarity of the image are remarkable in the first print shown in Japan. An important contributing factor, Imai points out, is that the film was printed entirely from original negatives.

Already the picture has started a storm of controversy in the Far East. Several countries have complained officially that the film is not a true representation of the life of Buddha. But accurate or not, the picture is a photographic achievement that is a credit to the skill of cinematographer Hiroshi Imai. ■

PHOTOGRAPHY OF "EL CID"

Continued From Page 31

tributions. Virtually breaking every precept in and out of the photographic rule books, cinematographer Krasker purposely filmed certain exterior scenes under incredibly difficult light condition to achieve calculated effects of stunning visual mood and dramatic force. For example, he shot directly into the sun, deliberately courting the starburst effect that results from the reflection of stray light within the lens elements. He filmed an enemy fleet approaching against the type of red-streamered sky which commonly occurs only during a few moments of twilight. A particularly blood chilling sequence showed invading troops, clad in the black of death, massing in silhouette against a glowering dawn sky. The dread and suspenseful horror generated photographically within this sequence aptly illustrates the line in which the character, El Cid, says: "This is the worst time—that moment when the enemy has no face."

There are other instances, too, of daring photography in this picture, such as the scene of Charlton Heston astride a horse moving through a foothill vista just as dawn is breaking. The scene was actually photographed at dawn and the camera captured the awe-inspiring sight of the rising sun gradually coloring the bleak hills with its golden light.

Farther along in the picture there is another breath-taking vista of a beach at dusk, that surely required careful calculation of exposure and later special care by Technicolor in the printing to retain all the values in

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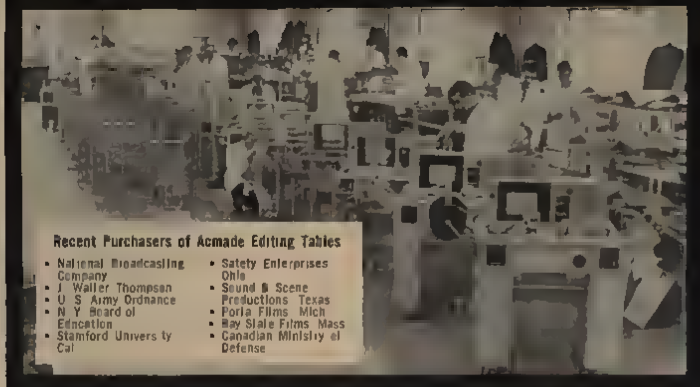

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the scene which Krasker's imaginative artistry had so carefully conceived in the photography of it. And there are scores of other exteriors photographed with the same bold approach, bringing motion picture audiences moments of undeniably great cinematography such as never before witnessed.

Photography such as this, as every color photographer knows, demands the utmost in exposure control, a feat vastly complicated by the fact that sunrise and sunset conditions are never constant, causing the available light and color temperature thereof to vary virtually from second to second. Nor is it ever possible to capture the exact effect again by continuing the filming of the sequence on another day. In a production such as this, with literally thousands of advancing troops crowding the screen, the most careful preplanning was required, along with the ability to move rapidly and surely to complete filming during that brief moment when the light was right.

Sculpture With Light

Whereas photography is often called "Painting with Light"—Krasker, in his filming of the picture's more intimate sequences on the sound stages of the Chamartin, Sevilla and Cea Studios in Madrid, demonstrated his mastery of this basic photographic element with a technique that more accurately might be called "Sculpture with Light." What is remarkable is the economy of light that was used to achieve scenes of great pictorial beauty. With an amazingly few light units placed exactly right and the use of dextrously beamed backlight and cross light, effects of striking simplicity and impact were created, revealing set elements and players in a three-dimensional aspect. Violating all laws, written or unwritten, of so-called "commercial" photography ("The audience pays to see the faces of the stars"), Krasker allowed these famous physiognomies to go into black when the mood or another element of the scene demanded photographic emphasis.

Filming of the picture began with eight weeks of shooting on the sound stages in Madrid, after which the company moved northward into Spain's Guadarrama mountains, then west into the "castle country" of Valladolid, south to the ancient walled city of Peniscola, and finally to Belmonte in the historic province of La Mancha, stamping ground of Don Quixote. Thirty-six hours after the cameras

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stopped rolling at Belmonte, filming was resumed 1,100 miles away in Rome

Action is the keynote of "El Cid." and the camera is involved in it as intimately as are the screen participants Not only are the battles between individuals and massed armies staged with shocking realism. but photography thrusts the spectator into the very midst of the fray, creating a personal impact rarely before achieved on the screen. The enormous technical difficulty of photographing such violent action at close range, while controlling such diverse elements as composition. depth-of field, focus, lighting and pictorial continuity, can scarcely be imagined by the non-technician Krasker and Second Unit cinematographer Manuel Berenguer have managed it with superlative skill Each shot, a creation in itself, blends smoothly into the overall impression.

One such sequence that causes the screen to rock with the clash of steel and flesh for eleven bloody minutes, depicts the mortal combat btween El Cid and the Champion of the King of Aragon The action begins on horseback, with the camera hurtling forward as the knights charge each other with lances in a jousting duel Violently unhorsed. the warriors pound and hack at each other with mace and broadsword

The camera receives and counters every blow, as the carnage proceeds against a background of the actual castle of Belmonte, one of Spain's most striking symbols of medieval grandeur Before this proudly turreted structure the full panoply of 11th Century heraldry — with its bright banners, colorful tents and armored knights — comes vividly alive. The sweep of battle moves on to encompass ambush raids filmed on the extravagantly beautiful, snow-laced Spanish countryside, as well as more formal battles between massed armies.

Adding greatly to the film's aura of realism is the fact that the picture was produced "at the scene of the crime"— that is, in the actual locales where the legendary Cid pursued his colorful career 900 years before. The castles seen are real castles in Spain. not something whipped up out of lath and plaster on a studio back lot for the occasion

The magnificently pictorial and ancient walled fortress-city of Peniscola, its ramparts extending into the sea, "doubles" most effectively for medieval Valencia in the final spectacular sequence depicting the siege of that stronghold and the driving back of the invading Moors into the sea. A crew of 384 technicians labored to reconstruct the walls of the castle and town to appear as they did in El Cid's time The result is a monolithic dramatic stage of awe-inspiring scope that no studio set could ever begin to duplicate for effect

Filming of the spectacular final sequence required a full month of shooting, and utilized 1700 troops of the Spanish Army. 500 mounted riders of Madrid's Municipal Honor Guard, and some 3500 men of the province as warriors. Fifteen giant war machines and mobile battle towers based on authentic drawings were constructed and 35 boats were converted to form a Moorish battle fleet. The logistics of bringing cameras, booms, lights and other equipment from Madrid, plus a small army of stars and supporting players, and horses by the hundreds, were worthy of an actual invasion force

Krasker's camera utilizes the authentic backgrounds for fullest effect and integrates the constructed sets with them so well that there is no aspect of studio "back lot" about the production For example, even though latter-day modifications prevented the actual Cathedral of Burgos from being used, the company constructed an exact replica of the building as it looked in El Cid's time—and it ties in perfectly with the actual structures still standing since that era

"El Cid" was filmed in 70mm Super Technirama-Technicolor, an anamor-

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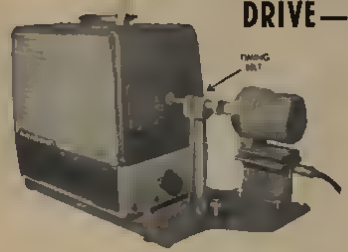

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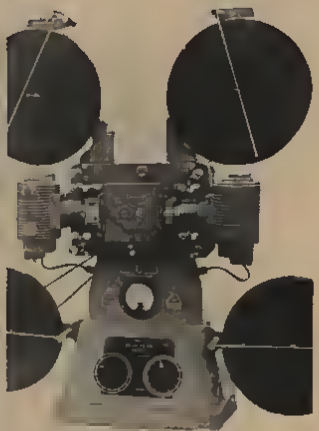

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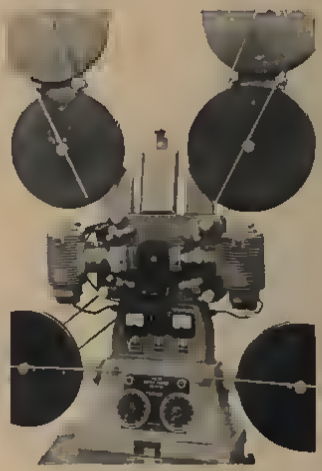

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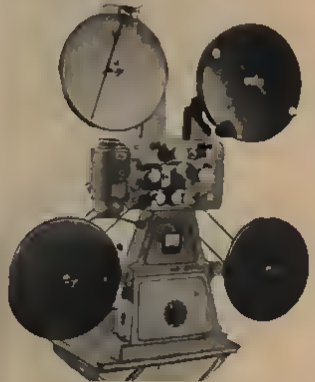

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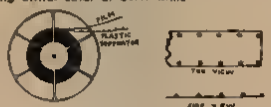

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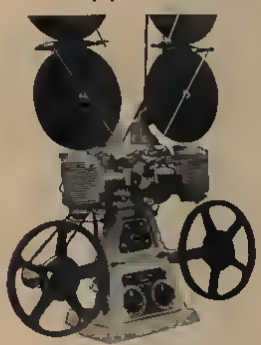

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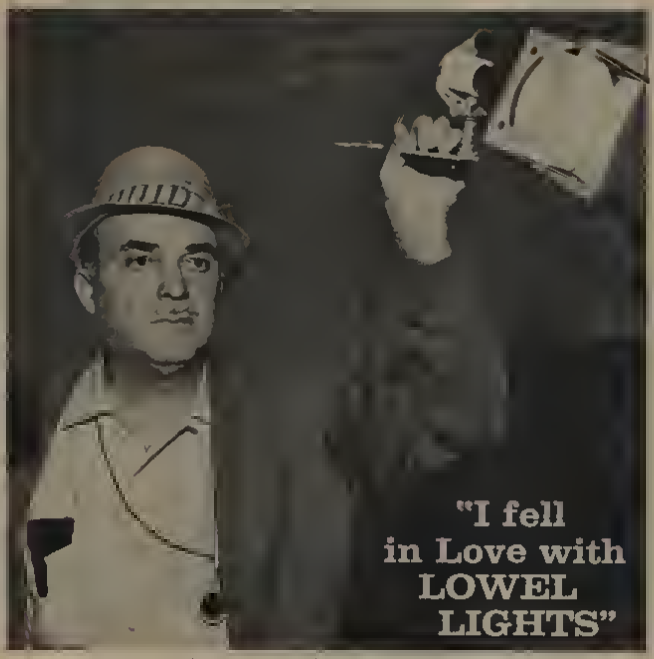
phic process in which 35mm Eastman Color negative travels through the camera horizontally (as in the VistaVision process), recording an oversize horizontal "squeezed" image covering eight sprocket holes of film length per frame. Release prints are made on 70mm film, the image being "unsqueezed" in the printing process to exactly fill the full 70-mm frame width. As in the Todd-AO process, the release prints are non-anamorphic and therefore require no special lenses for projection. Since, in this process, 50% of the squeeze is accomplished in the camera and 50% in the printer, and since the anamorphic factor is prismatic rather than cylindrical, the system is free of the distortion characteristic often found in other anamorphic systems. Technicolor liquid-gate printing in combination with an alteration of the bleach phase of processing produces release prints of unusually fine grain.

In "El Cid", Krasker's camera is versatile and fluid throughout, adopting diversified treatments for a wide variety of moods and action. It backs off or soars high into the air to capture panoramic vistas of the sweeping pageantry. It thunders along with surging hordes of galloping warriors. By contrast, it approaches intimately to dominate the huge screen with a lovers' kiss in extreme closeup. In striking split-focus wide-angle compositions it relates a face in huge closeup on one side of the frame to a full figure 15 or 20 feet away on the other side—both registering sharp and clear. It glides in fluid motion, not simply following action, but treating the eye to a kaleidoscope pattern of constantly changing composition.

It is an honest camera, free of tricks and special effect gimmicks, with never a process or matte shot to be seen. Colored light is used subtly and with motivated logic to validate a light source such as a flaming torch. It sweeps the spectator subjectively into the "eye" of the action without calling attention to itself. In short, it does everything a camera is ideally designed to do in relation to the filmic whole—and does it superlatively well.

As for the man behind that camera—Australian-born cinematographer Robert Krasker, winner of the Academy Award for black and white photography of "The Third Man," has long been regarded one of the industry's most imaginative camera craftsmen. Combining an artist's eye for visual aesthetics with a comprehensive knowledge of cinematographic technology, he has won acclaim for his photography of "Odd Man Out", Sir Laurence Oliver's production of "Henry V". "Romeo and Juliet" and "Trapeze". In "El Cid" he surpasses even his own brilliant record.



says Academy Award Winner Sam Leavitt, ASC.

"These versatile lights have been a godsend to me," continues Mr. Leavitt. "With a roll of Gaffer-Tape they stick or clamp to any surface or object. I've used them to light small sets and location interiors to augment studio lights."

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CINERAMA

Continued From Page 29

the blend lines. How we have dealt with this will be described later in this article.

The Limitations Encountered

In using the Cinerama camera to photograph a dramatic picture, the first limitation we encounter is that which the three 27mm lenses impose. With three lenses pointing in three different directions to photograph an outdoor scene, it is obvious that the chief problem is one of lighting. In bright sunlight in the afternoon, with the center lens pointing due west, the sun for the left side of the picture, or "A" panel, would be in a direct

back light position The center panel "B" would have a direct cross light; and in the right or "C" panel, there would be strong but flat light. The entire three-panel scene, therefore, would consist of a back light, a cross light and a flat light—all in the same composition, but each in a separate segment of it.

It was pointed out earlier that the diaphragm controls of all three lenses are interlocked, so that it is impossible to set one lens at one f/ stop and the other two at different stops in an effort to compensate for the different kinds and intensities of light that may fall on the three panels or segments of a scene This is necessary to insure that sky exposures will be uniform in all three panels and thus conceal—or at least not readily reveal—the lines of demarcation between the respective panels on the screen. Exposure is variable, but not separately for each lens.

As the diaphragm controls are interlocked, it is necessary to arrive at a compromise in exposure for exteriors, such as described above, in order to accommodate backlight, cross light and flat light in one pictorial composition. Exposure calculation in every instance must be precise.

When shooting interiors on the sound stage, the first question posed by the 143-degree camera field of view is, "Where do we put the lights?" Because the camera's 27mm lenses produce an unnatural aspect of depth, it is necessary to build all sets for Cinerama smaller than sets for conventional cinematography They must be small and they must be high, because of the Cinerama picture format —143 degrees in width by 55 degrees in height Set design, therefore, requires special consideration Take, for instance, little things like trim, mouldings, etc. Because the camera is so close to the walls of a set when a scene is being photographed, such small details loom up—are more pronounced —than in 35mm photography.

For all Cinerama interiors, sets must have four walls, and sometimes a ceiling This is because where the action involves a large group of people, over-the-shoulder (reverse angle) shots are inevitable And if this is done properly, the camera will be moved or dollied Without the fourth wall, the 143-degree wide-scope lenses would take in the open space where no wall was provided.

Our objective, in adapting the Cinerama camera to photograph a dramatic motion picture, is to use it with virtually the same freedom that we have when shooting with a Mitchell. Thus we are able to make the variety of shots so essential to smooth cutting of the film A major problem has been making the wide scope of the scenic travelogue fit the smaller confines of the dramatic picture set Now the camera is photographing principally people in dramatic action, and scenery becomes secondary. In other words, we now use the Cinerama camera the same as we would a camera of conventional picture dimension or aspect ratio

One of the problems we have encountered in this so-called close-range photography with Cinerama, is shooting closeups. In order to shoot a waist-size closeup of a person, that person must be between two and three feet from the camera lens, because of the 27mm lens used. This close proximity of subject to camera makes lighting extremely difficult With the blimp on the camera, the subject's distance is further narrowed to something like eighteen inches from the blimp's transparent plastic "bubble."

How do you light a person standing only eighteen inches from the camera? In this case we used some tricky lighting devices—small lamps that were mounted on the camera blimp. Where, normally, we would use a key light well back and properly placed, we substituted the smaller blimp-mounted lamps having the proper output and set at the correct angle

Because good motion pictures are partly the result of good editing, the cutter must have the proper shots to work with. Closeups make up a major portion of these shots, and for this reason we set out early to perfect a means of making acceptable closeups with the Cinerama camera.

Because people—the actors in the cast—are our primary objective, they must at all times dominate the scene instead of the scenery in exteriors, or dominate the set, when scenes are filmed on the stage. We have successfully applied most of the basic photographic techniques of 35mm photography to that of Cinerama in order to concentrate attention on the players—by proper lighting, the right camera set-up, and giving special attention to how and where a player looks while the scene is being photographed.

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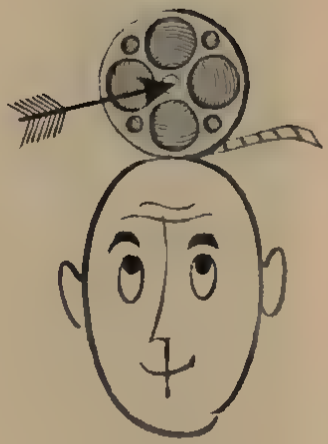

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The 3-Panel Bugaboo

Whereas Cinerama's three-panel format with its accompanying blend-lines constantly posed problems for the photographers of Cinerama spectacles, such problems are intensified when shooting a dramatic picture in this format. You cannot, for example, shoot a tight head closeup, Cinema-Scope fashion, with the Cinerama camera and have the image bisected by a blend line. Instead, the single actor must be so positioned that his head will be entirely within the boundaries of one of the three panels—preferably the center one.

Another problem is where we have, say, three actors in a scene—one in each panel. An actor in a side panel cannot look directly at one in the center panel when speaking to him but must "cheat" a little—direct his eyes slightly *behind* the actor in the center. On the screen, his gaze will appear completely proper. This is because of the differences in the angle in which the side panel actor is photographed compared to the one in the center. Obviously, this proves a little rough for the actors who, in such situations, have to play to the wall or some inanimate object in the background.

Still another limitation the Cinerama system places on an actor is where he can come to rest in a scene. If he does so at the point of either blend line, there likely will be a noticeable vertical streak bisecting him on the screen. Therefore, a dominant rule is that an actor moving in a scene can only stop in the areas designated by cue marks placed on the floor or ground. He can proceed through the blend line, but never stop there. Or move a hand or arm through it. All this makes it imperative that actors "hit" their marks accurately every time.

It also gives the camera operator one more thing to watch. Not only must he keep the actors in the picture, but he must be sure they are always in the right positions with respect to the panels and blend lines—and more important, that they are looking in the right direction in relation to other actors in the scene, as already pointed out above.

It is obvious to the reader by this time that the blend lines in the Cinerama process widely affect the photographic procedure as well as the conduct of actors in a dramatic pro-

duction Because the presence of the blend lines can he minimized hy taking certain precautions, such as those already described, this is a major consideration both in planning the sets and in choosing Cinerama camera setups.

Minimizing the effect of the blend lines is therefore a major consideration whenever we prepare a camera setup We look for verticals that can be placed at the point of the blend lines in a scene, and should we be working outdoors in a wooded area, we endeavor to place the camera so that trees come in this area in a composition. On the sound stage, we often use shadows to minimize the blend lines, arranging the lighting in such a way that the shadows appear natural to the scene.

When photographing exteriors with the Cinerama camera, the 55-degree vertical angle of view adds further to the problems imposed by the three panel format. For example, very early in the afternoon, we may get the sun in the picture and not be able to reposition the camera to avoid it. Here it becomes necessary to improvise means of obscuring the sun itself by introducing subtley into the scene a tree branch, cluster of foliage or other suitable object so it will come between the sun and the camera lenses.

The worst condition that can be encountered when shooting exteriors is a bald sky. When there is nothing that can be logically introduced into the scene to absorb or conceal the blend lines, then the camera setup should he changed. The bald sky is something we endeavor to avoid in Cinerama exteriors We invariably consider the blend lines first, then plot and stage the action to suit the camera setup.

The Curvature Problam

The fact two of the camera lenses are set at an angle and that the composite Cinerama scene is projected on a curved screen causes any strong horizontal lines in the scene to zoom sharply upward in the side panels when the picture is projected. A typical example of such a scene would be a train moving across the screen in the middle foreground If the train were to enter the picture from the right, it would appear to move diagonally downward until it reached the first blend line, then move straight across to the next blend line, and from there zoom diagonally upward again and out of the picture. The answer to this problem, of course, is simply to avoid such camera setups

The three-panel curvature problem works adversely in still another way; it prevents shooting with the Cinerama camera in other than a perfectly level position. In other words, the camera cannot be tilted up or down more than "half-a-bubble" on the level, nor can it be tilted or panned during shooting Providing it is kept level, it can be moved on a crane back and forth laterally or moved in and out or in any other direction Thus the camera can never be elevated then tilted down in order to circumvent the high-walled sets which the system presently requires

There are other problems that walls present in Cinerama photography, and these are matters which the production designers are now recognizing so that, for the director of photography, they present no unsurmountable situations As in all motion picture production, sets must be specifically designed to accommodate the conditions which are an inherent part of Cinerama's three-panel photographic process.

On the set, the director of photography and his operator have plenty to do. Both must be equally alert, for there is so much to watch: the blend line positions; how the light is falling on the players; making sure none of them move into the wrong light, or stop at the point of a blend line. You are three times as busy as you ever were shooting a conventional picture

With all the problems that Cinerama presents the director of photography in the production of a dramatic

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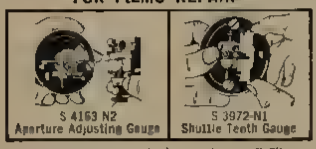

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picture, an understanding and sympathetic director can do much to ease the task and make the photography completely successful. Such a director is Henry Hathaway, who was just wonderful in his planning of this picture—a leader in it, actually. Because of this, we were able to utilize the full potentials of the Cinerama camera to give scope and life to scenes such as never before witnessed in a dramatic picture.

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HONG KONG VENTURE

Continued From Page 41

yi Hwong, is the daughter of a Chinese actress living in Hollywood. The other star, an eight year-old Hong Kong lad, was found after an extensive search among the schools and institutes in the area. All actors in the picture, with the exception of those who played Caucasian bits, were Chinese and it was necessary that they speak both that language and English, since the film was to be shot in two language versions simultaneously.

Producer Ruggles and Director Whelan who speaks fluent Chinese, began shooting scenes for the picture on the teeming sidewalks of Hong Kong. Both had been assistant directors in Hollywood for a number of years and were accustomed to the hassles that invariably are encountered during a production. Their own production, however, really tested their abilities.

The script called for a sequence to be shot in Aberdeen, the reknowned junk-choked harbor of Hong Kong where between 80,000 and 150,000 inhabitants live aboard water craft. Most of these people came from an area near Canton called Hakka where there is a fearful taboo against photographers and photography. Natives believe that if you photograph them, you steal part of their soul. Quaint, but hardly conducive to successful shooting of a feature motion picture.

The first master shot in the production was filmed unobtrusively from the loft of a lumber yard shed overlooking a marketplace. The camera had to be "broken down" into pieces and smuggled up a ladder to conceal both its identity and purpose. At the end of the establishing shot filmed here, the zoom lens was zoomed down to concentrate on that part of the area where dialogue scenes would begin—right in the center of the marketplace. A second master shot was filmed from inside one of three Volkswagen trucks the company had rented. For this, the two child stars were walked into position, following directions given them unobtrusively by means of tiny two-way radios carried in their pockets. This expedient was necessary because none of the company personnel dared be seen with the youngsters and thus reveal that movies were being made.

Next, the camera and cameraman were placed in a large wicker basket, which was carried into the heart of the marketplace by four coolies and set down at a pre arranged spot in the middle of an aisle. Immediately merchants belabored them to remove the basket. The situation was normalized by creating a secondary activity which diverted the objecting merchant's attention for a moment or two, until the required scene was safely gotten on film.

Making conventional moving camera shots was entirely out of the question and it seemed that the only way a trucking shot could be made was for the camera operator to walk ahead of the actors, shooting with the Arriflex hand-held. To do this right out in the open, of course, would have attracted undesirable attention. So, the operator held the camera under his arm—a black bag over it for concealment—and shot backwards as he walked. Before the maneuver was begun, the camera lens had been properly set for focus and exposure.

The assistant cameraman, meanwhile, trotted alongside the operator, carrying the battery pack in one hand and helped keep the camera trained on the actors with the other. Several men, acting as "guards," ran interference so that the cameraman would not be jostled while shooting.

Weird and unconventional as this procedure may seem, it nevertheless resulted in some fine "trucking" shots—especially those made at night in areas like Temple Street with its crowds of sidewalk vendors.

One particularly interesting sync sound sequence was shot here with the camera and cameraman concealed in the bin of a tricycle used to haul laundry. To shoot it took four nights because the cameraman was invariably spotted by the ever-curious crowds of natives. Even more interesting is the fact that illumination for shooting these scenes was furnished by a single Coleman gas lantern!

The method of available-light photography prevailed in shooting all of the night sequences except one, which involved an outdoor "opera" performance of tumblers, musicians, etc. To effectively photograph this, a small stage was erected and a nucleus of 150 extras hired. Three thousand additional onlookers worked "for free" as extras, milling around the area about a square block in extent. The lighting equipment available to illuminate this huge area, consisted of a single 2,000-watt Junior, four Colortrans, and twelve photofloods—the latter prerigged and hung from nearby apartment buildings. After all the preparation, shooting of this sequence was halted temporarily by a cholera epi-

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demic.

Another interesting sequence for the picture was shot in a banana market. The company arrived at this location one morning at three o'clock in an attempt to avoid the crowds—something that is difficult to do in Hong Kong, where everyone seemingly stays up all night. After some difficulty with the lights (the only available power source was in a nearby latrine) the camera crew started shooting, completing twelve set-ups in sixty minutes, then quietly stole away to avoid discovery by the daytime shift of "sidewalk superintendents."

The script called for a sequence to be shot in the hold of a venerable junk afloat in the harbor, but inspection of the craft revealed it was bereft of hold—instead, just a three-foot square cargo area. The problem was solved by knocking out one wall and enlarging the area to suit the script requirements.

One sync sound sequence was filmed in a sampan, with the actors crowded at one end of the craft and the camera and operator at the other. The sound technician and his equipment worked nearby in a second sampan tethered alongside.

Scenes shot in Macao—uncomfortably close to Red China—were subject to another native taboo. It is forbidden to point a camera of any kind in the direction of Communist territory. It was necessary therefore, before any shooting was started, to submit to local officials a detailed list of the scenes to be photographed. During photography, a Portuguese official stood by to make sure the camera never deviated. All this created something of a problem where reverse-angle shots were required, but cinematographer Rojas skillfully met the challenge with unique camera angles and some unobstrusive compositional "cheating."

At no time during filming in this area could reflectors or booster lights be used outdoors, due to official decree, so outdoor action was usually staged close to a light colored wall or other structure which would act as a reflector to kick light into the shaded side of player's faces. Not infrequently in such situations, Rojas used his white straw hat as a reflector.

Very early in the Macao location, it was discovered that a blimp was of little use in shooting exteriors because of the high level of the street noise. The master dialogue shots were done only in English, whereas closer shots were filmed and recorded both in English and the Mandarin dialect. For protection, after shooting each scene, the dialogue was recorded wild a second time on the Minitape recorder, but without photography. Because acceptable sync sound was vital to this production, Ruggles and Whalen, along with all production personnel and members of the cast, assembled on the roof of their hotel each night and recorded again the dialogue for the entire day's shooting. The hotel roof was selected for this because of the complete absence of reverberation and the minimum of street noise.

The more than 80,000 feet of raw stock used consisted of Eastman Plus-X and two closely-matched emulsions of Double-X, all of it obtained in Hong Kong. It had been planned to process the negative in Tokyo, but this, it was learned later, would have seriously delayed the viewing of "dailies." The Young-Wah Laboratory in Hong Kong was recommended as a dependable alternative by Eastman Kodak's Hong Kong representative, Philip Sweeney, who also offered to place his technical engineer at Ruggles' and Whalen's service to supervise the processing.

The original shooting schedule for "Out of the Tiger's Mouth" was thirty days. But three typhoons, a cholera epidemic, and an eleven day bout with tonsillitis by the diminutive leading lady stretched it out an additional five weeks. The picture, now in the final stages of scoring and dubbing, is scheduled for release sometime after January first. ●

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STREAMLINING PRODUCTION

Continued From Page 37

field of view as the motion picture cameras, and were cable connected to monitors in the sound booth

Pre-shooting rehearsal under the Calvin technique is much the same as on a conventional motion picture set The difference lies mostly in an ability to shoot the whole scene in one take. That is, the actors play an entire scene through without stopping In the conventional methods, there would be a break between the long and medium shots and some of the closeups or low angle shots. As Calvin does it, the two cameras are pre-positioned and rehearsed to cover an entire scene without a break

During the scene rebearsals, the director works right on the floor. He positions the actors and cameras and checks the lines, getting the entire sequence ready to roll

Then, just before shooting starts, the director moves to a control station in the sound booth. While the cameras are rolling, he views the corresponding action on the television monitors. Masking tape is placed over the face of the monitors to indicate the field of coverage for the lenses being used on the motion picture cameras.

As he watches the action, the director instructs the cameramen and other members of the crew (all of whom wear head sets) by inter-com. Cuts from one camera to another are done by the director with simple, push-button controls Both Mitchell cameras are equipped with bloop lights which mark the stop and start positions on the edges of the film In this way, the director, in effect, pre-edits his film. The bloop light markers serve as guides for the rough cutting of the film for later review

The resulting film is processed in a fairly conventional cycle For the high school biology series, Calvin used Ektachrome Commerical, Type 7255, in the cameras Dailies were made up on black-and-white reversal film. These were reviewed on an editor along with the sound on 16mm magnetic tape. The black-and-white prints were then edited and reviewed by all interested parties When this editing was completed, the camera original film was cut into A and B rolls for printing. An Eastman Color internegative was then made for producing the release prints

These techniques make it possible to create a top quality, 30-minute color/sound film for approximately $20,000, according to Calvin Productions In cases where budgets for props, displays and so on are less extensive than for the comparatively-costly biology series, production costs could run substantially under this figure.

The main contribution of this technique, according to Calvin officials, lies in the increased range which has been achieved in fitting the filmed product to the budget at hand. ■

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NEWMAN-SINCLAIR CAMERA

Continued From Page 38

in bayonet-type fittings having an interrupted single thread. The mounts are sufficiently rugged to allow even a SOM Berthiot Pan Cinor zoom lens to be used on the camera without any additional support.

The mirror reflex shutter has an opening of 160 degrees. The finder eyepiece is conveniently located to allow the whole camera to be rested on the operator's shoulder for hand-held shooting, as in news reel work, etc. The eyepiece of the finder tube can be focused to suit the individual's need.

Magazines accommodate 400 feet of black-and-white or color negative. And as the camera mechanism will function efficiently in either direction, reversing magazines are available for use in double-exposure work.

The camera has two footage counters — the second one mounted with the tachometer and so well placed that the operator may observe them readily by momentarily lifting his eye from the viewfinder eyepiece.

The variable-speed motor is an integral part of the camera. Its current consumption is rated at 1 ampere on starting and 75 amp. when running. Technically, the motor is rated as 9 inch ozs., providing 100% power reserve.

Although the P-400 is a mirror shutter camera, extreme wide-angle lenses, including the 14.5mm Angenieux and the 9.8mm Kinoptic, may be used with confidence. Anamorphic lenses can readily be adapted to the camera, and appropriate masks for such lenses can be supplied for both the ground glass of the finder and the gate assembly. In this respect, the camera body is substantial enough to allow the supporting bars for the anamorphic lenses to be fitted directly, eliminating the necessity for a cradle-type support.

A follow-focus attachment — an optional accessory — is operated from the side of the camera, and its mechanism engages the focus rings which are supplied for the camera lenses. A Selsyn control for remote operation of this mechanism is also available.

There are some who consider mirror shutter cameras unsuited for single-frame photography. However, according to the manufacturer, the P-400 has been successfully employed in this type work when coupled with an electrically-operated single frame exposure actuator. The manufacturer can supply a special baseplate for the camera incorporating a complete single-frame drive mechanism. The latter is of the continuous type, with solenoid control for individual exposures. It may be operated either forward or backward, and a manual single-frame release lever is provided that may be used in event the solenoids fail to operate for any reason. An optional accessory to the single frame unit is a gear box, which provides a range of exposure speeds for single-frame photography, also for precisely-controlled continuous speeds of 4- and 8-fps.

The blimp, an optional accessory, is built of fibreglass, and has a special lining developed expressly for the P-400 camera. It weighs 65 pounds. The camera may be quickly mounted within the blimp for sound film production. This requires only an extra baseplate having a dovetail fitting to be attached to the camera base. The sync motor is attached to the side of the camera by means of a single thumbscrew — then the whole assembly is slipped into the blimp and locked in place — an operation that takes about two minutes.

James A. Sinclair & Company, Ltd., London, manufacturers of the Newman-Sinclair P-400, have recently arranged with Florman & Babb, Inc., New York, to represent their products in the U.S. ■

PROGRESS REPORT

Continued From Page 32

most educational demonstration before members of the American Society of Cinematographers. The latter organization assisted the Council in the preparation of filmed demonstration material, which had been prepared by Ed Ancona and Walter Beyer, then associated with the MPRC, and which was photographed under the supervision of Walter Strenge, ASC, and Arthur Miller, ASC.

The Research and Educational Committee of the ASC recently revived the entire matter, and William Daniels, the Society's President, recently addressed a letter to the top executives of all TV set manufacturers in the U.S. and to officers of the Electronics Industry Association, the text of which follows:

Gentlemen:

Continued on Page 60

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PROGRESS REPORT

Continued From Page 58

During the month of November 1959, the former Motion Picture Research Council invited the directors of photography, as united in the American Society of Cinematographers, to witness a demonstration on the DC restoration problem in black-and-white TV home receivers

It was conducted over their closed circuit system which operated at highest performance quality in accordance with FCC standards

The lecture material consisted of both slides and films carefully prepared for this showing under the supervision of some of our directors of photography

The quality deterioration of our efforts and work as directors of photography on black and-white home receivers without DC restoration was a shocking surprise to all of us This was further emphasized by the demonstrated fact that an unbelievably negligible amount for components could provide every home receiver with DC restoration—including a switch to turn it on and off by choice

The disbanding of the MPRC in the spring of 1960, unfortunately prevented a concerted effort by our industry to spur the TV set manufacturers into action in providing DC restoration in future models

Not only do we feel that the TV watching public has a right to see our pictures at their very best, but we are also convinced that an improved pictorial quality of black and-white home receivers will undoubtedly boost sales to the benefit of the manufacturers, resulting from the follow-through of our proposal

Since the professional skill and workmanship of the directors of photography are undoubtedly degraded due to the application of a false economy, and since we will photograph the product for TV release for some time to come, we would like to bring to the attention of your Board of Directors our request for a statement as to what position they take on the subject of DC restoration

Please bear in mind that the A.S.C membership is responsible for the photography of in excess of eighty percent of all entertainment films shown over TV today

We also authorize you to distribute our serious complaint to all your related membership companies and industries which you may consider to be involved in a solution to the above problem

Very truly yours,
(Sgd) William H Daniels,
President
American Society of
Cinematographers

The response to this letter was almost unbelievably spontaneous; not one of the fifteen manufacturers disagreed with our action. While some manufacturers are already providing DC restoration, or semi-DC restoration in their latest receiver models, others are giving it most serious consideration as a result of our approach

There is also urgent need of agreements between stations and set designers on the establishment of black level transmission, and we have, with our letter to the Electronic Industry Association, undoubtedly impressed the importance of action to do anything possible for improving the picture quality on black and white TV home receivers.

While, no doubt, outstanding engineering activities by other individuals and organizations concerned with this problem have taken place, the room for improvement has not diminished. In fact, the situation is such that serious proposals have been made within the motion picture industry to photograph films for television differently than for the theatre, in order to offset home receiver deficiency. That this Committee does not agree with these proposals is evident by its action set forth above We hold that the faulty picture quality of many television films as seen on home receivers is attributable to the electronic systems of the receivers, not in the photography of the TV films—for which even old movies shown on TV are sufficient evidence

The American Society of Cinematographers, through its Research and Educational Committee, undoubtedly has accomplished more with its general letter to TV set manufacturers, than all engineering arguments that have ensued on the subject during the past few years Set manufacturers and broadcasters rarely are approached by the TV viewing public, and it is gratifying that both industries have reacted so favorably to this Committee's considered proposal, which should result not only in better rendition of TV film programs on home receivers, but also in a more just and proper presentation of our professional photographic skills.

Next month, we hope to report here on the Committee's research which has culminated in recommendations for double-frame camera aperture dimensions, and also its recommendation for apertures and areas for the 35mm films for television ■

Ed Note: Detailed description of the so called DC Restoration and its effect on the home TV receiver image is extremely complex and therefore beyond the scope of this report. Readers interested in further details are referred to two descriptive, illustrated articles on the subject by Robert J Nissen, Chief Engineer, KQED: "The Case For DC Restoration," which appeared in *Electronics Industries* for January, 1960 also "The Problems of the Unrestored TV Receiver," published in the *Journal of the SMPTE* for August, 1960

BEHIND THE CAMERAS

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KENNETH PEACH, ASC, "Follow the Sun"*

LLOYD AHERN, ASC, "Adventures in Paradise"*

LEON SHAMROY, ASC, "Cleopatra" (J. Mankiewicz Prod.; Todd AO; shooting in Rome) with Elizabeth Taylor and Richard Burton. Joseph Mankiewicz director

WALT DISNEY STUDIOS

CHARLES LANG JR., ASC, "A Girl Named Tamiko" (PVision, color, Hal Wallis Prod) with Laurence Harvey and France Nuyen. John Sturges, director

PAUL BEESON, "The Castaways" (shooting in London) with Maurice Chevalier and Hayley Mills. Robert Stevenson, director

WARNER BROS

ROBERT KRASKER, "Act of Mercy" (Cavalcade Concorde Prod , shooting in Spain) with Leslie Caron and David Niven Anthony Asquith, director

RALPH WOOLSEY, ASC, "77 Sunset Strip"* "World Wide Pictures"*

RAY FERNSTROM, ASC, FRANK CARSON, "Surfside 6"*.

FRANK CARSON, JACK MARQUETTE, RAY FERNSTROM, ASC, "Hawaiian Eye"*.

HAROLD LIPSTEIN, ASC, "The Chapman Report" (Darryl F Zanuck Prods) with Shelley Winters and Ray Danton George Cukor, director

ROBERT HOFFMAN, "Bronco"*.

HAROLD STINE, ASC, "Black Gold" with Diane McBain and Claude Akins. Leslie Martinson, director.

BERT GLENNON, "Lawman"*, "Lone Serra"* (pilot)

ZIV-UNITED ARTISTS

CLIFFORD POLAND, (shooting in Florida) "Everglades"*

MONROE ASKINS, "Rip Cord"*

CURT FETTERS, "King of Diamonds"*,

Literature

BOOKLETS, CATALOGUES AND BROCHURES AVAILABLE FROM EQUIPMENT MANUFACTURERS

Editing Equipment Catalog

Just about every item, large and small, used in the film editing profession is illustrated and described in the handsome 64-page catalog available from Hollywood Film Company, 956 Seward Street, Hollywood 38, Calif.

•

Lab Service Price List

Available from LAB TV, 723 Seventh Ave., New York 19, N.Y., is 8-page brochure setting forth prices of all services offered the film maker by LAB-TV. These include work prints, color-to color prints, fades, dissolves, timed prints, edge-numbering, etc.

•

Film Data Booklet

A new, comprehensive 54-page technical data booklet on DuPont Motion Picture Films has just been published by the company and is available to qualified film makers from any of the company's eight branch offices, also from its Canadian office and the home office in Wilmington, Delaware.

•

Color Film Services

The fine color film facilities of General Film Laboratories in Hollywood and in Kansas City, Missouri, are illustrated and described in a colorful 16-page booklet. Described are the various units of modern lab equipment used by the company, followed by explanations of the various services offered producers of motion pictures in color. Closing the book are paragraphs helpful in the editing and preparation of color films for the laboratory.

•

Chart of Techniques and Services

A comprehensive illustrated chart now being issued by Videart, Inc., 480 Lexington Avenue, New York 17, N.Y., provides film makers with valuable data pertinent to film production. It includes chart showing 103 different optical wipe effects; 35mm safe art and title area digrams, chart of various standard 35mm camera apertures; 35mm footage conversion chart; chart for converting seconds to frames to 35mm and 16mm footage; a list of New York advertising agencies, and list of local film editors and editing services in the New York area.

•

ColorTran Data Sheet

ColorTran Industries, 630 So. Flower St., Burbank, Calif., announces a new technical data sheet on the company's ColorTran Senior and Junior Mark II voltage converters.

•

Pathe Camera Brochure

Available from Burke & James, Inc., 321 So. Wabash Avenue, Chicago 4, Ill., is 4-page illustrated brochure on the new model Pathe 16mm "Webo-M" reflex camera. Pictured are various salient features, diagram of the camera's variable shutter. ■

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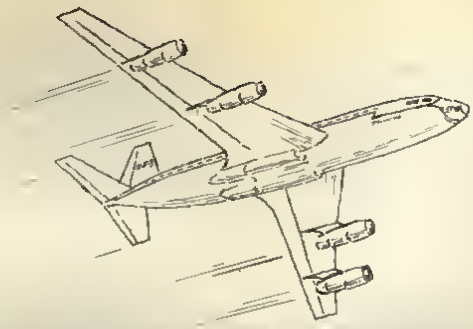

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